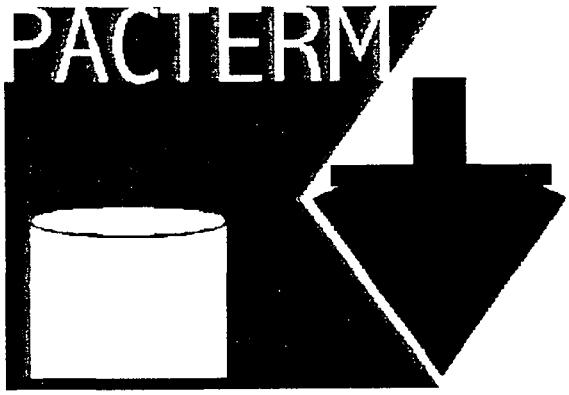


OPERATIONS MANUAL

PACIFIC TERMINAL SERVICES, INC.

PORTLAND MARINE FUEL OIL FACILITY

FEBRUARY 2000

U.S. Department of Homeland Security
United States Coast Guard

Commander
United States Coast Guard
Sector Portland

6767 N. Basin Ave.
Portland, Oregon 97217-3992
Phone: 503-240-2333
Fax: 503-240-2586

16611
22 October 2007

FIN# PDX20036

Pacific Terminals
Attn: Mr. Kevin Buffman
7900 NW St Helens Rd
Portland, OR 97210

Dear Sir:

In accordance with Title 33 Code of Federal Regulations (CFR) Section 154.325(d), this letter is issued to Pacific Terminals to certify that the Operations Manual submitted on February 2000, was "Examined by the Coast Guard" and met all applicable requirements for a transfer facility outlined in 33 CFR Parts 154 and 156.

Please submit any future amendments to the Operations Manual to this office in accordance with the procedures outlined in 33 CFR Section 154.320.

Maintain a copy of this letter with each copy of your Operations Manual. Your cooperation and effort to safeguard the environment and the port are greatly appreciated.

If you have any questions, please contact the Facilities Inspection Branch at (503)-240-2333.

Sincerely,

PATRICK G. GERRITY
Captain, U. S. Coast Guard
Captain of the Port

U.S. Department of Transportation
United States Coast Guard

Captain of the Port
United States Coast Guard

6767 - North Basin Avenue
Portland, OR 97217
Staff Symbol: Facility Inspections
Phone: (503) 240-9333
FAX: (503) 240-9308

RECEIVED
OCT 9 2001
BY:

16450
October 4, 2001

Mr. Troy Goodman
Pacific Terminal Services
P.O. Box 24005
Seattle, WA 98124 - 0005

Dear Mr. Goodman:

Your proposed amendments submitted on August 16, 2001, amending your Facility Operations Manual originally approved by the Coast Guard on December 15, 1999, have been reviewed and are approved. This approval only applies to the Facility Operations Manuals at your Portland, Oregon facility.

Please ensure all copies of your Facility Operations Manuals are updated with the approved amendment and place a copy of this letter behind the original approval letter in each Manual.

If you need any additional information or have any questions, please feel free to contact the Facility Inspection Section at (503) 240-9333.

Sincerely,

R. B. WALLS
Lieutenant (j.g.), U.S. Coast Guard
Facilities and Container Inspections Branch Chief
By direction of the Captain of the Port

PACIFIC TERMINAL SERVICES, INC.
910 SW Spokane Street, Seattle, Washington 98134
P.O. Box 24005, Seattle, Washington 98124-0005
Tele. (206) 628-0051 Fax (206) 628-0293

September 4, 2001

LTJG Robert Walls
United States Coast Guard
Attn: Facility Inspections
6767 North Basin Avenue
Portland, OR 97217

Re: Updated Operations Manual

Dear LTJG Walls:

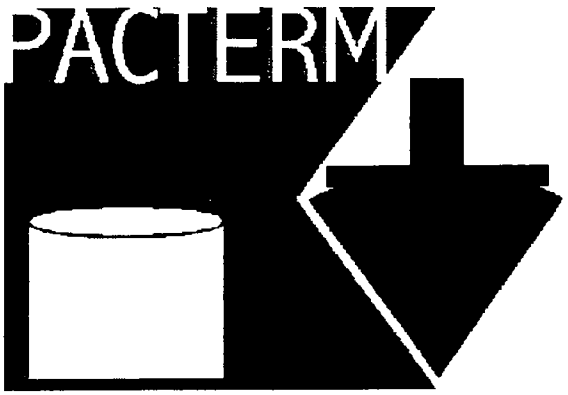
Enclosed please find an updated copy of the Operations Manual for the Pacific Terminal Services, Inc. Portland Marine Fuel Oil Facility. If you have any questions, please contact me at 206-938-6505.

Sincerely,

Troy M. Goodman, PE
General Manager

cc: Mr. Charles Donaldson
Department of Enviromnental Quality
811 SW 6th Avenue
Portland, OR 97204

Mr. Tom Shinault
US-EPA Region 10
1200 Sixth Avenue
Seattle, WA 981010



OPERATIONS MANUAL

PACIFIC TERMINAL SERVICES, INC.

PORTLAND MARINE FUEL OIL FACILITY

FEBRUARY 2000

Record of Changes

Date of Change	Pages Effected	Date Change Entered	Name of Person Entering Change
August 21, 2000	12, 15	August 21, 2000	Troy Goodman
July 24, 2001	12, 13, 14	July 24, 2001	Tina Garrett
August 8, 2001	App. A	August 8, 2001	Bill Schaeffner
August 31, 2001	1, 2, 4, 5, 10, 12, 15,	August 31, 2001	Tina Garrett
	App. A, App D,		
	Letter		
May, 2003	20	May, 2003	Tina Garrett
March, 2006	10, App. A	March, 2006	Tina Garrett

The purpose of this Record of Changes is to provide for a record of the section amended, the date that the old section was replaced with the amended section, and the initials of the individual making the change. A description of the amendment and its purpose shall also be filed in the form of an amendment letter immediately following the log sheet.

AMENDMENT DESCRIPTION

August 21, 2000 – 12 – Added Coal Tar Phch information
15 – Location of hose reel
July 24, 2001 – 12 – Emergency Shutdown
13 – Response materials updated
14 – Procedures for booming updated
August 8, 2001-App. A – Updated PIC List
August 31, 2001 – 1 – Page numbers
2 – After hours contact information changed
4 – Add vessel size information
5 – Direct connect transfer hose operations changed to occasionally
10 – Primary Spill Response Contractor changed
12 – Added reasons for emergency shutdown
15 – Added earthquake emergency inspection procedures
App. A – Updated PIC List
App. D – Added MSDS for marine diesel blend
Letter – Added fire department response letter
May, 2003 – 20 – Added boiler operation information
March, 2006 – Updated emergency contact information and PIC list.

TABLE OF CONTENTS

0. Geographic Location:

The Pacific Terminal Services, Inc. Portland Marine Oil Facility is located at 7900 NW St. Helens Road in Portland, Oregon. The location is one-half mile upstream of the St. John's Bridge on the southwest shore of the Willamette River (near River Mile 6.5).

Geographically, the location of the facility is:

Latitude:	45 degrees 35 minutes North
Longitude:	122 degrees 46 minutes West

The address and 24-hour phone numbers of the facility are:

Facility Name:	Portland Marine Fuel Oil Facility
Facility Address:	7900 NW St. Helens Road
	Portland, OR 97210
County:	Multnomah
Telephone:	(503) 286-9621 (24-hour telephone)
	(503) 286-5321 (Boiler Control Room)
Fax:	(503) 286-9794

The procedure for contacting the facility operator on a 24-hour basis is to telephone:
(503) 286-9621

This number is the telephone number of the facility main office that is answered by office staff Monday through Friday, between 0800 and 1700. After hours, this telephone numbers' voice mail will tell callers how to reach the on-call person responsible for handling facility operations and emergencies. Also, if the facility is operating, personnel may be reached by calling (503) 286-5321 in the facility control room.

Facility Operator

The operator of the facility is:

Pacific Terminal Services, Inc.
P.O. Box 24005
Seattle, WA 98124
(206) 628-0051 (24-hour)

Facility Owner

The owner of the facility is:

Northwest Natural Gas Company
220 NW Second
Portland, OR 97209
(503) 226-4211

The owner of the liquid coal tar pitch pipe line and storage tank is:

Corporate:	Koppers Industries, Inc. 436 Seventh Avenue Pittsburgh, PA 15219 (412) 227-2001	Local:	Koppers Industries, Inc. 7540 NW St. Helens Road Portland, OR 97210 (503) 286-3681

1. Description of Facility:

This Operations Manual addresses only the operations of Pacific Terminal Services, Inc. (Pac Term) and those oil storage tanks at the facility leased by FAMM from Northwest Natural Gas Company. Pac Term began operations at this facility in November 1999. Prior to that time Pacific Northern Oil (PNO) operated the facility since August 1978. Prior to that time, others operated the fuel oil terminal. The facility has been in industrial service since the early 1920's. The start up date of the oil storage tanks is unknown.

In addition, PTSI operates the pier and pipeline for receipt of liquid coal tar pitch (molten) for Koppers Industries. Liquid coal tar pitch is pumped from ships through a pipeline from the pier to storage tanks located upland next to NW St. Helens Road. Koppers Industries owns the pipeline, storage tanks and associated process and distribution facilities. Koppers Industries leases the property from NW Natural Gas.

Tanks and Facility Operations

The facility is designed to receive and store various grades of fuel oils and lubricants by truck, rail car, pipeline, barge, or tanker and to mix these various grades of oil together to make marine and industrial fuel oils. These products are delivered by truck or barge. The SIC code for PacTerm is 5171.

In addition, liquid coal tar pitch (molten) is received from ships at the pier and pumped to the Koppers upland storage tanks. At the Koppers Facility, various coal tar pitch products are processed, stored, and distributed by truck and by rail car. The SIC for Koppers Industries is 2865.

Dock Pipelines: Fuel Oil

Fuel oil transfers to and from the facility fuel oil dock are made in three parallel, aboveground pipelines, one 12-inch diameter for heavy fuel oil, one 10-inch diameter for diesel oil, and one 8-inch diameter for cutter oils and marine diesel oil (MDO). The line-fill capacity of the fuel oil line is approximately 63 barrels, the line-fill of the diesel pipeline is approximately 44 barrels, and the line-fill capacity of the cutter/MDO pipeline is approximately 28 barrels. These pipelines run aboveground directly from the tank yard areas to the dock "risers" at the fuel oil dock service platform. All pipelines may be isolated with manually operated gate valves located at the shore end of the dock walkway and at the dock service platform. Refer to the Facility Layout drawing.

Dock Pipelines: Liquid Coal Tar Pitch

Liquid coal tar pitch transfers from the pier to the upland storage tanks are made through a single 8" product transfer pipe. This pipe increases in size to 10" just after crossing the top of the riverbank. The

pipe is heat "traced" with 1" and 2" hot oil pipes attached to the product pipe. The product and heat trace pipes are completely encased with 6" thick insulation. The heat trace fluid is a petroleum-based oil similar to diesel fuel oil with a higher flash point.

The liquid coal tar pitch transfer pipe has shut off valves at the ship connection on the pier (two valves – one manual and one remotely motor operated), a valve at the top of the river bank (manually operated), and manually operated valves near the storage tanks to direct the product to the proper tank.

The transfer pipe runs above ground from the pier connection to the storage tank area. The total length of the pipeline is approximately 2000'. The product line-fill capacity is approximately 200 barrels from the ship connection on the pier to the shut off valve near the tank. The heat trace line-fill capacity is approximately 5 barrels from the end of the pier to the shut off valves at the meter shed about 150' inshore of the top of the bank.

Volumes of Oil Transfers

Oil tankers delivering products into the tanks have been as large as 50,000 DWT, 700 feet in length, unlimited beam and varying draft depending on river depth. The largest barges have typically had capacities of approximately 100,000 barrels. Actual oil volumes transferred are typically much smaller. The average daily throughput of oil at the facility is approximately 6,500 barrels.

Ships bringing coal tar pitch will discharge about 8,400 metric tons (50,000 barrels) of product. Six to twelve ships a year will discharge at the facility. Each discharge will take 36 to 48 hours. The facility will only "receive" coal tar pitch.

2. Hours of Operation:

The Pacific Terminal Services, Inc. Portland Marine Oil Facility is operated as needed 24 hours a day, 7 days a week.

3. Vessel Information:

Fuel oil is transferred in bulk to and from oil tank vessels or barges brought to the facility by tug boats. Oil barges may vary in length from 120' to 350' and have oil storage capacities that range between 5,000 barrels and 100,000 barrels. Occasionally, fuel oil is delivered directly to a vessel (such as a tug boat) moored at the fuel oil dock where a fuel oil transfer hose may be directly connected between the facility oil riser valve and the vessel. Vessels taking fuel oil in this manner from the facility may be as long as 200'.

Liquid coal tar pitch (molten) is transferred from ships to upland storage tanks. A steel transfer hose will be directly connected between the ship and the pier transfer pipe connection. The ships are conventional dry bulk/container carriers fitted with special deep tanks for carriage and transfer of liquid coal tar pitch. The deep tanks are approximately 8900 metric ton capacity (approximately 60,000 barrels). The vessels are about 40,000 DWT capacity and approximately 650' long and 95' wide.

Simultaneous Vessel Operations

There is only one vessel berth at the facility fuel oil dock. Simultaneous transfer operations involving two or more vessels do not occur. However, it is common to load or unload trucks, or to unload railroad tank cars, at the tank farm area simultaneously with transfers to or from the dock.

In case of any emergency, such as an oil spill, during simultaneous operations, facility personnel shut down all transfer operation at the facility so that the emergency conditions may be addressed.

4. Product and Cargo Information:

List of Products Transferred

The common names of the marine fuel oils transferred to or from vessels may include Marine Gas Oil (MGO), Marine Diesel (MDO), Intermediate Fuel Oil (IFO of various viscosity grades), Residual Oil, No. 6 Fuel Oil, and Bunker C (BFO). The proper shipping names of the oil products carried are shown on the Shipping Papers (Bill of Lading) for the cargo.

Generic Chemical Names	Regulatory Names (Refer to 46 CFR 30.25-1)
Marine Gas Oil	Oil, fuel No. 2 or Oil, Diesel
Marine Diesel Oil	Oil, fuel No. 2-D
Intermediate Fuel Oil	Oil, fuel No. 6
Residual Oil, No. 6 Fuel Oil, Bunker C	Oil, fuel No. 6 or Oil, Residual

All of these products have common characteristics, handling hazards, and emergency procedures outlined in the following paragraphs (for more information, refer to North American Emergency Response Guidebook, Guide 128, Flammable Liquids). In addition, Material Safety Data Sheets (MSDS's) contain information about the appearance, odor, and hazards of the oil products transferred. The MSDS's also include instructions for safe handling, first aid, and fire fighting. Typical MSDS's for oil products handled at the facility are included in the Appendix D of this manual. All MSDS's for materials handled at the facility are located in a binder at the facility office. The procedures to follow in case of an oil spill at the facility are covered in the Facility Oil Spill Contingency Plan.

Common Characteristics

Appearance: Amber to black oily viscous liquid appearance.
Odor: Strong hydrocarbon odor.

Handling Hazards

Inhalation, ingestion, or skin or eye contact may irritate or bum skin and eyes
Vapors may cause dizziness or suffocation
Vapors may form explosive mixtures with air
Vapors may travel to ignition source and flash back
Vapors may be heavier than air, spread along ground and collect in low areas or confined spaces
Runoff to sewer may create fire or explosion hazard
Containers may explode when heated
Many liquids are lighter than water
Products may be transported hot

Liquid Coal Tar Pitch

Coal tar pitch is liquid only at elevated temperatures. At ambient temperatures coal tar pitch is a solid. The liquid coal tar pitch will be transferred from the ship at a temperature of 450 F to 500 f. Obviously, personnel must avoid contact with any hot uninsulated surfaces containing the liquid coal tar pitch.

Generic Chemical Names	Regulatory Names (Refer to 46 CFR 153)
Carbon Pitch Liquid	Coal Tar Pitch (Molten)

The Material Safety Data Sheet (MSDS) contains information about the appearance, odor, and hazards. The MSDS also includes instructions for safe handling, first aid, and fire fighting. A copy of this MSDS is contained in Appendix D.

Common Characteristics

Liquid:	Hot black viscous liquid with strong hydrocarbon/creosote odor.
Solid:	Varies – typically coal like shiny surface but can be chunky or frothy and containing vapor pockets depending on severity of agitation when mixing with water while cooling.
Weight:	Both liquid and solid are heavier than water and will sink in water. Some chunks may float depending on steam/air pockets when mixing at the water surface when cooling.

Handling Hazards

Hot liquid will cause thermal bums.

Hot liquid if in contact with water will cause water to boil and result in steam and possible thermal bums if contacted by personnel. A large quantity of the hot liquid spilling into water can cause a violent reaction.

Inhalation, ingestion, or skin or eye contact may irritate or bum skin and eyes.

Vapors may cause dizziness or suffocation.

Vapors may form explosive mixtures with air.

Vapors may travel to ignition source and flash back.

Vapors may be heavier than air, spread along ground and collect in low areas or confined spaces.

Hot Oil Trace Fluid

The heat trace fluid for the coal tar pitch pipe is similar to the fuel oils transferred at the facility.

Generic Chemical Names	Regulatory Names (Refer to 46 CFR 30.25.1)
Petroleum Process Oil (98% Distillate)	Similar to Distillate – straight run

The heat trace fluid is manufactured by Exxon Company and is called CALORIA HT 43. The Material Safety Data Sheet (MSDS) contains information for safe handling, first aid and fire fighting. A copy of the MSDS is contained in Appendix D. The product is to be treated the same as any of the petroleum products handled at the facility.

Safe Handling Instructions

Ground all equipment
Wear personal protective equipment including safety glasses, protective gloves, and boots
Avoid contact with hot liquid and hot surfaces.

Emergency Procedures

First Aid Procedures

Call for emergency medical care
Move victim to fresh air
Apply artificial respiration if victim is not breathing
Administer oxygen if breathing is difficult
Remove and isolate contaminated clothing and shoes
For skin or eye contact, flush with running water for at least 20 minutes
Wash skin with soap and water
Keep victim warm and alert
Alert medical personnel to product hazards and necessary precautions (provide MSDS)

Spill or Leak Procedures

Isolate spill or leak area
Keep unauthorized people away
Stay upwind
Keep out of low areas
Ventilate confined spaces before entering
Eliminate all ignition sources
Do not touch or walk through spilled material
Stop leak if possible without risk
Prevent entry into waterways, sewers, or confined spaces
Reduce vapors with foam
Absorb or cover with dry earth, sand, or non-combustible material and transfer to containers
Use clean, non-sparking tools to collect absorbed material
Solid coal tar pitch will require removal by chipping, scraping, and other mechanical means.

Fire Fighting Procedures

Fire may product irritating, corrosive and toxic gases
Runoff from fire control may cause pollution
For small fires, use dry chemical, CO2, water spray, or regular foam
For large fires, use water spray, fog, or regular foam. Do not use straight streams.
Move containers from fire area if possible without risk.

5. Minimum Number and Duties of Facility Personnel

A minimum of two (2) facility personnel are required for each oil transfer operation between the facility oil tanks and any tank vessel. The **Dock Operator** is the qualified and designated facility **Person-In-Charge**. He is positioned at the fuel oil riser valve on the dock to handle hoses, operate valves, maintain communication with the vessel, and monitor the transfer in accordance with the Operations Manual. The **Shift Supervisor** is positioned at the tank farm to operate the transfer pumps and monitor the oil storage tanks.

For a transfer of liquid coal tar pitch, a Koppers **Shift Supervisor** will be positioned at the control and monitoring station in the motor control center. Additional Koppers personnel will be on hand in the tank storage area to assist with control and monitoring of the transfer operation.

Personnel on the vessel are present and perform duties in accordance with the vessel's Oil Transfer Procedures.

6. Emergency Telephone Numbers

In case of either an oil spill or a spill of Kopper's liquid coal tar pitch, the Pac Term designated Qualified Individual (QI) will be the QI. Pac Term's QI is the QI for Koppers Industries.

In case of an emergency, the on-duty shift supervisor shall immediately call:

IN CASE OF INJURY, FIRE, OR EXPLOSION

After shutting off all pumps, closing all valves, and assessing details of the emergency, the on-duty shift supervisor will call the following people:

1.	Facility Manager: (Spill Response Manager and Qualified Individual)	Troy Goodman	Office: 253-272-9348 Cell: 206-571-5483 Home: 425-427-5660
	If no response:	George C. Clark	Office: 206-628-0051 Pager: 888-983-9087 Cell: 206-793-4358
		Rod Gullickson	Office: 206-628-0051 Pager: 800-371-3360 Cell: 206-793-2306
		Tina Garrett	Office: 503-240-3452 Cell: 503-572-9355 Home: 503-283-6841
		Jack Wild	Office: 503-240-3456 Cell: 206-255-5010 Home: 360-263-5330
	Koppers Industries Portland Coal Tar Pitch Facility Manager:	TJ Tumer	Office: 503-286-3681 Home: 360-896-5139
2.	Primary Oil Spill Response Contractor Clean Rivers Cooperative		503-220-2040
3.	NWNG Security (at facility gate)		503-286-5250

Immediately, upon receiving the call and details about an oil spill, the QI, or designated altemate QI, will call the following:

1.	USCG National Response Center (NRC)	(800) 424-8802 or (202) 267-2675
2.	Oregon Emergency Response System:	(800)452-0311 or 503-378-6377
3.	Local USCG Marine Safety Office	503-240-9301

Northwest Natural Gas Company

Sandi Hart at Office: Ext 4322		503-226-4211
Distribution Dispatch Night Supervisor		503-226-4211

5. Corps of Engineers

Bill Switazenberg, Shipyard Chief	Office:	503-326-5636
Brandon Smith, Envir. Coord.	Office:	503-326-2477

6.Portland Fire Department: 911

If there is no answer at any of these numbers, call the next number, and after 5 minutes, try calling the unanswered number again.

7. Duties of Watchmen for Unmanned Vessels Moored at this Facility

Transfers from the facility do not occur with unmanned vessels. If an unmanned vessel is moored alongside the pier, a watchman shall periodically check the mooring lines and the adjacent water surface for signs of oil leaks (sheen on the water). If a leak is detected, the watchman shall notify the Shift Supervisor. The Shift Supervisor shall start the Spill Response procedures and notify the appropriate persons and/or organizations as appropriate.

8. Communications Systems

During transfer operations, the Persons-In-Charge will use voice communication whenever practical.

If voice communication is ineffective e or impractical, portable radios will be used for communication. These radios will be available to the facility Person-In-Charge and to the vessel Person-In-Charge.

The portable radios used during oil transfers are "intrinsically safe" and suitable for use in Class I, Division I, Group D areas.

In addition, there is a telephone at the fuel oil dock service platform and in the boiler control room.

9. Location of Persomel Shelters

There is a personnel shelter on the fuel oil dock service platform. The personnel shelter is fitted with the following facilities: Operations Manual, Facility Oil Spill Response Plan Field Manual, electric space heater, and telephone.

10. Description of Drip and Discharge Collection

Fixed containment with at least 3 barrels of capacity for discharge collection is provided at the riser valve location to collect minor leaks, drips, or discharges. The fuel oil dock service platform is constructed to contain spilled oil and rainwater up to a volume of 4,280 gallons. Under the oil riser valves on the service platform there is a fiberglass lined concrete 3-foot deep sump with a capacity of 1,770 gallons. The service platform sump is inspected daily and emptied automatically with a float

operated, permanently installed pump on the dock service platform. Oil and water is processed through an oil water separator. Recovered oil is returned to the facility tanks and water is discharged under an NPDES permit. This facility does not receive vessel slop.

11. Emergency Shutdown

Fuel Oil

Emergency shutdown of the oil transfer pumps may be done manually by the dock operator by pushing the emergency pump shut off switches located at the ramp just off containment at the loading manifold.. In addition, for emergency shutdown, facility personnel close all valves. Emergency shutdown may be accomplished in thirty (30) seconds.

Coal Tar Pitch (molten)

Coal tar pitch is only received. In an emergency, the ship's Person-In-Charge shall be notified to shut down and secure the shipboard transfer pumps. The PTSI PIC shall close the coal tar pitch control station valves on the pier and then notify the Kopper's Plant Shift Supervisor to close the pipeline valves at the pitch storage tanks. There are manually operated valves at each location. There is a motor operated valve with a manual override at the control station in addition to the manually operated valves. In an emergency, shut down may take up to one minute.

Reasons for Emergency Shutdown:

Injury, fire, flood, earthquake, high winds or electrical storms could necessitate shutdown. It is the responsibility of the Operator 1 on shift to make a determination regarding shutdowns for continued safe operation of the terminal and on site personnel.

12. Monitoring Devices

The Captain of the Port does not require this facility to provide or install monitoring devices at this time. The facility personnel do monitoring visually.

13. Containment Equipment

Normally, the facility is equipped with the following minimum spill containment and response materials:

a)	Containment Petro Boom in water	400 feet
b)	Sea Curtain boom in water	500 feet
	Sea Curtain boom stored in building at Rivers edge for easy access	500 feet
	New Sea Curtain boom stored in warehouse On pallets for easy access	700 feet
e)	Sorbent pads	7 bales
f)	Oil snares	5 boxes
g)	Oil sorbent pillows	12
h)	Oil blanket	1
i)	Oil sorbent 3" snake boom	1 bag
j)	Rolled Visqueen	1 – 4 feet x 400-600 feet 1 – 5 feet x 200-400 feet
k)	50 lb bags kitty litter	17
l)	Bird boxes	4 cases
m)	Wilden air Diaphram pumps	2
	Gas pumps with 2" set up to be used with Camlock fittings and hoses	2
	Spill boom boat – 19 foot aluminum boat With lights tow bar, powered by a 115 horse Johnson outboard, outfitted with safety Devices required.	1
p)	Coast guard approved life vests	7
q)	Floatation jackets – varied sizes, bright Orange, Coast guard approved	5
r)	Rain gear and boots – issued to employees	9 sets

Location

We normally have about 900 feet of containment boom in the water. The rest of the oil containment boom is stored in a large plywood box on the riverbank adjacent to the downstream mooring dolphin at the facility. Sorbent materials are stored in the facility warehouse. The spill response boat is at the mooring location next to the spud barge for instant use.

Access and Deployment

The spill response boat is moored next to the spud barge. The extra containment boom storage box is accessed from riverbank. Deployment of the containment boom is accomplished as follows: manually, remove the plywood covers of the containment boom storage box. Swing open the boom storage box doors. Manually, pull out the free (leading) end of the containment boom and feed the end into the plywood trough leading to the water to allow the motorboat operator to retrieve the free end of the boom and tie it to a cleat on the stem of the boat. Manually drag the boom section by section from the storage box as the motorboat tows the free end away from the dock.

With the motorboat, make a best effort to tow the containment boom around the spilled oil. This will need to be accomplished as an add on to boom that is already in the water and in the best way to confine the spilled oil to a limited area.

The sorbent materials are deployed by hand as necessary on the water surface to absorb the spilled oil. Reposition and retrieve sorbent materials with pike poles or rakes. Place oil soaked materials and debris in 10 mil plastic bags for collection and proper disposal.

Deployment Time for Adding Boom

Unless there is an injury or fire, there are unforeseen difficulties in equipment shutdown, or there are other mitigation measures necessary, the on-duty facility personnel can access the facility's additional equipment for extra containment or for containing escaped oil in less than 2 hours. With 900 feet of boom in the water and equipment pre boomed at all times, additional boom will be for extra protection only.

The facility containment materials will be sufficient to contain an average most probable discharge. For larger discharges, PTSI will call a Primary Response Contractor listed in Section 7, Emergency Telephone Numbers, of this manual and in the Facility Oil Spill Contingency Plan. The response time for the Primary Response Contractor is estimate to be 2 hours or less.

14. Fire Extinguishing Equipment

Twenty (20) pound dry chemical fire extinguishers are located throughout the facility. There are four fire extinguishers located on the fuel oil dock. One is placed about mid-way on the dock walkway. Another is at the dock-end of the dock walkway. There are two on the dock service platform. All personnel are trained in the proper use of the fire extinguishing equipment.

To operate the fire extinguisher:

Remove the extinguisher from its' mounting bracket
Hold upright
Release nozzle from holder
Pull safety pin
Press lever to activate charge
Squeeze handle on nozzle
Direct discharge at base of flame

DO NOT direct discharge at surface of burning liquids form closer than 8 feet.

In addition, there are fire hydrants located throughout the facility. The fuel oil dock is fitted with a "dry pipe" fire water system. There is one hose reel located at the dock service platform and another hose reel located at the dock-end of the dock walkway. Additional hose connections are located on the walkway at the upstream dolphin and on the service platform at the beginning of the upstream walkway. Sprinkler heads are spaced evenly under the wooden dock walkway stmcture. In addition to the dry-pipe system, there are fittings to allow fire department pump tmcks to pressurize the fire water system from the shore end of the dock walkway.

To operate the fire hose:

Pull hoses from hose reels until fully extended
Station one man at nozzle and one man at valve
Open valve
Station both men at nozzle
Spray water in side-to-side motion.

16. Emergency Inspection Procedures:

15. POST – EARTHQUAKE TANKFARM INSPECTION

TO ENSURE YOUR ABOVE GROUND TANKS ARE OPERATING PROPERLY AFTER AN EARTHQUAKE, THE FOLLOWING INSPECTION PROCEDURES ARE STRONGLY RECOMMENDED:

THERE ARE TWO BASIC CRITERIA TO DETERMINE THE SEISMIC RISK FACTOR FOR ABOVE GROUND STORAGE TANKS:

TALL VS SHORT TANKS -- A TALL TANK HAS A HEIGHT MORE THAN 75% OF IT'S DIAMETER. IF IT IS A TALL TANK, THE RISK OF DAMAGE IN AN EARTHQUAKE IS HIGHER.

IF THE PRODUCT LEVEL IN THE TANK IS GREATER THAN 75% OF THE TOTAL TANK HEIGHT, THE RISK OF EARTHQUAKE DAMAGE IS HIGHER.

PLEASE CHECK ALL YOUR TANKS AFTER A QUAKE BUT PAY PARTICULAR ATTENTION TO THE TANKS CATEGORIZED ABOVE.:

TANK BOTTOMS -- TO ENSURE NO BOTTOM FAILURE HAS OCCURRED, IT IS RECOMMENDED THAT THE TANK INVENTORY BE TAKEN IMMEDIATELY AFTER THE EARTHQUAKE AND AT LEAST TWICE MORE WITHIN 24 HOURS. THIS SHOULD GIVE AN INDICATION AS TO THE CONDITION OF THE TANK BOTTOM.

FOUNDATIONS – INSPECT THE TANK FOUNDATIONS FOR DEFORMATION OR NEW CRACKS.

TANK SHELL -- IS SUBJECT TO A CONDITION KNOWN AS "ELEPHANTS FOOT" WHERE THE BOTTOM OF THE TANK SHELL WILL BULGE OUTWARD AFTER AN EARTHQUAKE. IT IS IMPORTANT TO MEASURE THE TANK SHELL WITH A STRAIGHT-EDGE (ABOUT 3 FEET LONG) TO DETERMINE IF THE TANK SHELL HAS BULGED OUTWARD AT THE BOTTOM OF THE TANK. SEE API 650 APP E.

FITTINGS CAN BE DISPLACED DURING A SESMIC EVENT BUT CAN GO BACK TO A NORMAL APPEARANCE. IT IS IMPORTANT FOR ALL FITTINGS, FLANGE BOLTS AND VALVE BOLTS BE RE-TORQUED AFTER A QUAKE.

THE DISTANCE OF THE TANK FROM THE FOUNDATION SHOULD BE MEASURED AT ALL POINTS AROUND THE TANK TO ENSURE THE TANK DID NOT SHIFT POSITION ON THE FOUNDATION. ALSO, IT IS IMPORTANT TO MEASURE THE TANK BOTTOM PLATES FROM THE FOUNDATIONS TO ENSURE THEY HAVE NOT "RISEN" AWAY FROM THE FOUNDATION.

GATE VALVES ARE CAST – THEREFORE THEY ARE MORE LIKELY TO BREAK THAN THE PIPELINES THEY ARE ATTACHED TO. PLEASE ENSURE ALL GATES ARE OPERATING SMOOTHLY AND THE CASING HAS NO CRACKS.

RECHECK ALL EXPANSION JOINTS FOR SHEAR DAMAGE.

16. Maximum System Pressure

The maximum operating pressure of the oil transfer piping is 150 psig. The positive displacement transfer pumps have relief valves set at or below 120 psig. All piping is tested annually at 1.5 times the maximum operating pressure or 225 pounds.

All oil transfer hoses used to transfer oil to marine vessels have design burst pressures of at least 600 psig and maximum allowable working pressures of at least 150 psig. All oil transfer hoses will be liquid pressure tested annually to 1.5 times the maximum allowable working pressure, or 225 psig.

When the oil transfer pipelines are idle and gate valves are closed, the pipelines are protected by pressure relief valves from over pressure caused by thermal expansion of the oil (caused by sunshine or steam heating). The thermal pressure relief valves that automatically open at 100 psig or above to momentarily relieve excessive pressure are spring loaded to re-close.

This facility does not have loading arms.

17. Operating Procedures for:

Operating Loading Arms

The facility does not have loading arms at the dock.

Transferring Oil

Secure the area around the dock riser valve
Properly place warning signs
Check discharge containment
Check availability of spill response equipment and supplies
Anticipate what to do and who to call in case of a spill

Identify Vessel Person-In-Charge
Agree on the use of common language for communications (English)
Establish and test adequacy of communications devices
Check that vessel moorings are secure
Check for closed overboard discharges, including sea suction valves, on vessel

Hold face-to-face Pre-Transfer Conference with vessel Person-In-Charge
Agree on types and quantities of oil products to be transferred
Agree on safe pumping rates
Review vessel- loading plan and need to stop while topping off or switching tanks
Identify vessel personnel on duty during transfer and time of any watch change
Agree on Emergency Shutdown signals and procedures
Complete and sign the Declaration of Inspection (DOI)
Double check operability of communications systems

Inspect hoses for damage
Deploy and support hose of sufficient length to reach vessel connections, allowing for tide and vessel movements
Make proper hose comections at facility riser valve and at vessel connection
Install bolts in every flange bolt hole or strap down locking ears on "Cam-Lock" quick connect couplings
Check placement of discharge containment
Align and check transfer-piping valves (isolate unused tanks)

Agree with vessel Person-In-Charge to begin transfer
Begin transfer by starting pumps and opening transfer pipeline valves at facility an on vessel
Start with low flow and check for proper connections, valve alignment, and leaks
After thorough system check, slowly bring flow rate to normal operating rate

Monitor transfer operation continuously

Check hose(s) for kinks or strain
Check pump pressures, adjust flow with pump discharge valve
Check valves, fittings, and connections for leaks
Check water surface for signs of floating oil

Stop the transfer if:

Hose becomes kinked or strained
Oil is spilled outside of containment onto the ground or into the water
Communication or power is lost
Lighting becomes inadequate
Weather is bad (such as during an electrical storm)

Completion of Pumping

The procedure for completing the transfer operation is:

Stop the oil transfer pumps at the facility or on the vessel
Close all oil transfer pipeline valves or align valves to reverse flow to establish suction pressure on oil transfer pipeline
Verify with vessel Person-In-Charge that operation is shut down
Empty transfer hoses
Close valves on vessel
Disconnect, drain, and properly stow all equipment and
Cap ends of all pipes and hoses

Transfer of Liquid Coal Tar Pitch (Molten)

The procedure for transferring liquid coal tar pitch (molten) is basically the same as for oil products. The only difference is for the PTSI facility PIC to coordinate with and establish communication with the Koppers Shift Supervisor. Generally, transfer of liquid coal tar pitch (molten) shall not start until the Koppers Shift Supervisor indicates to the PTSI Facility PIC that the transfer pipe and storage tanks are ready to receive and the transfer may start. The procedures for transferring liquid coal tar pitch (molten) to the Koppers Storage tank are as follows:

Koppers Shift Supervisor to inspect the full length of transfer pipelines from the pier to the tank for leaks and any damage to insulation.
Koppers Shift Supervisor to insure hot oil heat trace system is lined-up and operating.
Koppers Shift Supervisor to check transfer pipe and determine it is "up to temperature" for transfer.

PTSI Facility PIC hold face-to-face pre-transfer conference with Koppers Shift Supervisor. Establish radio communication. Discuss quantity of pitch to be received, pumping rates, and Emergency Shutdown Procedures.
Koppers Shift Supervisor and PTSI Facility PIC to test adequacy of radio communication.
PTSI Facility PIC to follow the same procedure as transferring oil.

Koppers Shift Supervisor to attend and participate in PTSI Facility PIC pre-transfer conference with the Vessel PIC.
Koppers Shift Supervisor to establish radio communication with the vessel PIC.
Koppers Shift Supervisor to inform PTSI Facility PIC when ready to receive.
During transfer, Koppers Shift Supervisor to monitor storage tank filling and periodically inform the PTSI Facility and Vessel PIC's of progress.

Completion of Pumping.

The procedure for completing the transfer operation is:

Stop the transfer pumps at the facility or on the vessel.
Close all transfer pipeline valves or align valves to reverse flow to establish suction pressure on oil transfer pipeline.
Verify with Vessel PIC that operation is shutdown.
Empty transfer hoses.
Disconnect, drain, and properly stow all equipment.
Cap ends of all pipes and hoses.

Emergencies
In an emergency, the shutdown procedure is:
Alert the vessel Person-In-Charge
Close all oil transfer pipeline valves at the facility and on the vessel
Shut off all pumps
Turn off all engines and sources of ignition
In case of fire or explosion, call 911 and fight small fires or else evacuate area
In case of injuries, call 911 and administer first aid, if feasible, and
In case of oil spill, activate the Facility Oil Spill Contingency Plan.

The emergency shutdown procedure may be accomplished in thirty (30) seconds.

Boiler Cold Start
Starting a boiler cold means it has been shut down for at least 4 days. Never bring a boiler on line fast, the number one reason being that you can cause damage to the equipment. Damage is primarily from metal expansion, not to exclude the expansion you have with the water to steam ratio in the boiler. Anything done fast without going through accepted procedures can cause problems or damage. Thoroughly check line-ups, water to the boiler, steam valves open or closed, gas valves and power to the boiler.

First thing to look for is that the water level in the boiler is at least two inches or more in the sight glass. This level will normally be over the float level in the level control float. If it is not, the controls will not let you fire the boiler. It is okay if you are a little high in the sight glass to start off. Once the boiler firebox starts getting hot the water will expand and you will need to drain the boiler using the blow down device.

Boiler water feed system – check that the line is open all the way into the boiler. Part of this system is the chemical injection that should be open and ready to pump on demand. The system in Portland automatically pumps chemicals every time the feed water pumps come on. Not all

systems are set up this way, some you normally start pumping right off, they may feed into the D.A. tank and some may be going right in with the boiler feed water, direct to the boiler.

After everything has been inspected you are ready to fire the boiler. Check that main steam valve and gas valves are open. If you fire the boiler up against the main valve you will have pressure but keep in mind that you won't have a large volume f steam until the box gets hot.

When ready to light off the boiler, check that the power is on and the gas valve is open. The fire control should be on automatic. There is a scale mnning from low to high. Set it on the low firing position. Never start a boiler up on the automatic, controller. Now you can switch the on/off toggle switch to the on position. The boiler will come on and go through purge cycles with air, this is part of the safety system so that once the gas comes on and the igniter lights off it won't blow the boiler up. The boiler will light off with a small fire controlled by the manual firing control.

Let your firing control warm the box for approximately an hour. Using the manual firing control tum up the fire control to about one third of the scale between low and high. Let it fire that way until you see a little pressure coming on. Tum the switch to 50 percent of scale and let the boiler come up to pressure slowly. Watch for leaks and water expansion. You will need to blow down if the water stays too fiill or out of the glass. When it get to 100 pounds open the main valve into the steam headers, these valves are the lines that go into each tank farm. Preplanning of which tanks need heat should allow for opening these headers when needed, they should remain closed the rest of the time. When the pressure gets up to 120 pounds open the header into the system you plan to heat. You are now starting to open the steam valve into the tankfarm or area you want to heat. The boiler is not making much steam at this point other than pressure. Put the boiler on automatic. This will now control the boiler firing and will maintain the pressure at the maximum and fire back if your demand is not called for. This boiler cannot meet the demand of too much pressure and heat going out, so it will pull down even though the firing control is going as hard as it can. You will need to have steam going into the other tank farms for tracing so you will need to adjust the boiler to keep and maintain tracing also. The steam off of the boiler ahs a good condensate retum so be sure to have these valves open.

Procedures are written up without showing or explaining all of the fuel oil piping systems that are normally set up with tracings. Due to this the lines are all set up with pressure relief's around the valves into each tank so that heat and pressure expansion has a place to go. There could be an instance where all valves, including pressure relief valves, were closed. Your procedure would then be to open all the valves so that the relief system could work before putting heat on it.

A good practice when the boiler starts getting heat up is to go ahead and start the chemicals, put them on manual so that they will mn full time, not just when the boiler demands water.

Once the boiler is on line and making steam make sure that all of the systems are working properly. Blow down the sight glass chamber to test the alarm. Blow down the low water. Shut off the alarm, it should shut the boiler down.

If the boiler has been shut down for no more than 2 days it can be fired off and brought on line in about half the time because it is still warm. The water in the boiler is still warm to hot. The same steps should be followed. Check that water feed pumps are open and lined up, main gas on, power switch on, steam header valves open or closed. Fire the boiler using the firing controls as previously stated. Use the manual firing control opened up one third of the scale.

Let the boiler come up at it's own speed. You can bump it a little once there is heat on it. Go on line at 100 pounds or better and put the controls on automatic.

Boiler Shut Down

Turn the toggle switch on the boiler firing control panel to the off position. Switch the automatic/manual firing control into the manual position.

Close the main gas valve, shut off the breaker switch to the firing control. The boiler is still on line and will continue to make some steam for a while. Leave it on line to come down and cool on its own. Do not block it in, keep the boiler water feed on line to continue make up as long as needed. The boiler should not be blocked in until it has cooled to the point of not making any steam. It is better to let it get real cold than blocking it in and raising the safety's because the boiler is still hot and making steam. Normal practice is to isolate a boiler when taking it out of service, block in steam valves, water feed pumps and valves and chemicals.

With the system at the Portland terminal you leave some things lined up, the boiler water feed with just the power off, the main steam open off the boiler with headers closed only outside of the boiler building. Some need to be shut as previously stated, the main gas valve and power shut off.

If a long shut down is planned you will need to shut the whole system off, including water to the D.A. tank. Make a checklist for the person doing a restart.

18. Reporting and Containing Oil Spills

In case of a spill, either an oil spill or a liquid coal tar pitch spill, use the Facility Oil Spill Contingency Plan

Immediately notify the Vessel Person-in-Charge,
Take immediate action to stop spillage and limit environmental damage,
Use containment equipment and supplies to contain and absorb spilled oil,
Call Primary Resource Contractor for assistance,
Report the spill to the following:

- Pac Term Facility Manager, Qualified Individual(QI) or altemate QI,
- Koppers Industries Facility Plant Manager
- National Resource Center
- Oregon Emergency Response System
- Local US Coast Guard Marine Safety Office
- Portland Fire Department
- NWNG Security

A release of liquid coal tar pitch or oil which produces a "sheen" on the water's surface must be reported to the state and federal govemment agencies, including the National Response Center, immediately. When in doubt, report all spill incidents regardless of the amount of oil or liquid coal tar pitch released or spilled.

19. Applicable Oil Pollution Laws and Regulations

Oil transfer operations at oil facilities in Oregon are govemed primarily by the following federal, state and local laws and regulations:

ORS 468, the Oregon State Water Quality Act, which prohibits oil from entering the waters of the state from any ship or facility and which establishes a comprehensive prevention and response program to protect state waters and natural resources.

OAR 347-47, Regulations Pertaining to Oil Spills into Public Waters, which specifies minimum requirements for oil facility spill contingency plans and requirements for oil spill prevention strategies.

c) 29 CFR 1910.1200, the OSHA Hazard Communication Standard, requires employers at facilities handling hazardous chemicals to evaluate potential chemical hazards in the work place, to have written hazard communication programs, and to provide appropriate protective measures. In addition, container labeling, preparation and distribution of material safety data sheets and employees training to communicate chemical hazards and protective measures are required.

33 CFR 154, Facilities Transferring Oil or Hazardous Material in Bulk, is the Coast Guard Regulation for marine transportation related oil facilities. To operate a facility or conduct mobile facility operations, a facility operator must submit a Letter of Intent to the Captain of the Port along with an operations manual for the Coast Guard review and approval. Requirements for equipment including hose assemblies, discharge containment, emergency shutdown, communications, and lighting are given. The destination and qualifications of person-in-charge of oil transfers operations are prescribed as are safety requirements which must be met at the facility.

e) 33 CFR 156, Oil and Hazardous Material Transfer Operations, specifies Coast Guard requirements for conducting oil transfer operations between facilities and marine vessels. The responsibilities, duties and limitations of the facility person-in-charge of transfer operations are specified. The requirements which must be met for a transfer operations are given and include emergency shutdown procedures, communication systems, the duties of the person-in-charge and other transfer personnel. The persons-in-charge are required to hold a conference and to fill out and sign a declaration of inspection prior to beginning any bulk oil transfer.

40 CFR 112, Oil Pollution Prevention, specifies EPA requirements for Spill Prevention, Control and Countermeasures (SPCC) Plans for oil facilities which could discharge oil into navigable waters. SPCC Plans must be prepared in accordance with accepted engineering standards, must be certified by a registered professional engineer, and have the full approval of facility

management, The plans must address prevention of oil spills and plans for the containment, removal and disposal of oil spills should they occur.

Uniform Fire Code, Article 79, Flammable and Combustible Liquids Code, and amendments, if any, adopted by local fire department gives requirements for the storage, use, dispensing, mixing and handling of flammable and combustible liquids. Requirements are given for piping, storage tanks, diked areas, pumps, bulk plants and wharves.

b) 33 USC 1231, the Water Pollution Prevenfion and Control Act (also known as the Clean Water Act) prohibits the discharge of oil or hazardous substance on navigable waters and requires of civil penalties that may be $10,000 or more per violation. 40 USC 2701, the Oil Pollution Liability and Compensation Act of 1990 (also known as the Oil Pollution Act of 1990 or OPA 90), sets out financial responsibilities of parties responsible for oil spills. Those responsibilities include removal cost and damages to natural resources and to real and personal property.

29 CFR 1910.120, the OSHA Hazardous Waste Operations and Emergency Response regulation, specifies the obligation of employers in oil spill clean up operations, including emergency response operations, that may expose employees to safety and health hazards. Employees must use personal protective equipment and follow decontamination procedures. Training is prescribed for employees working ad first responders-awareness level, first responders – operations level, hazardous materials technicians, hazardous material specialists, and an on-scene incident commanders. Annual refresher training for these employees is required. Separate training requirements are given for post-emergency response operations.

20. Portable Lighting

Transfer operations conducted between sunset and sunrise are illuminated by permanent lighting fixtures at the facility and by lights on vessels that adequately illuminate each transfer connection point.

21. Training and Qualification of Persons-in-Charge

Dock operators and shift supervisors receive apprenticeship, on-the-job training in all aspects of plant operations and oil transfers before they are allowed to work alone. Each new employee undergoes dmg and alcohol abuse screening tests. New employees get approximately 2 months of on-the-job training under direct supervision, with a minimum of 48 hours directly supervised vessel loading per USCG regulations to become qualified as a "person-in-charge" of transfer operations. In addition, employees receive training (with certificates) in First Aid and CPR.

The competency of facility personnel is judged by their supervisor(s). Employee training in oil transfer operations is documented in personnel training records. The amount of training required to achieve competency varies based on individual employee leaming capabilities.

After at least 48 hours of training and experience in transfer operation, PTSI evaluates the adequacy of training and, if adequate, designates each qualified Person-in-Charge. Once designated, the name of the Person-in-charge is added to the List of Qualified Person-in-Charge, Appendix A.

Product Transfer Training: Includes familiarization with the oil transfer facility operations and equipment, completion of applicable paperwork and record keeping, a review of the oil spill response plan and spill response and prevention training applicable to the employee's role and responsibilities in an oil spill emergency. Training and regular briefings cover the following topics:

Hazards of the products handled
US Coast Guard regulation in 33 CFR 154 and 33 CFR 156
Duties and responsibilities of the Person-in-Charge
Purpose and use of the Declaration of Inspection
Operation procedures in the Operation Manual
Proper and Safe operation and control of facility equipment
Operation and control of vessel transfer systems
Applicable pollution regulations
Oil Spill Response Plan, including reporting and containment procedures
CPR and First Aid

Spill prevention training focuses on human factors, such as tank overflows and incorrect valve alignment, as causes of oil spills.

Spill Response training covers the following topics:

Spill Detection
Shut Down and Mitigation Procedures
Call Out Procedures
Notification Procedures
Emergency Response Action Plan
Use of Primary Response Contractors
ICS Purpose, Implementation, and Use,
Application laws and regulations\

Before being considered for promotion to shift supervisor, a dock operator usually has approximately 3 years of experience. Once chosen, a shift supervisor candidate gets approximately 6 months on-the-job apprenticeship training with another shift supervisor.

22. Hose Markings

Each hose used for oil or liquid pitch transfers to or from marine vessels will be marked with identifying number and the words "OIL SERVICE ONLY" or "Liquid Pitch Service" and "MAWP 150 PSIG". The records of the manufacturer, assize, length, design burst pressure, maximum allowable working pressure, and annual pressure tests for each oil transfer hose will be maintained at the Pac Term facility office and will be crossed referenced with the identifying number marked on the hose.

23. Tank Vessel Cleaning Operations

The facility does not conduct tank vessel cleaning of stripping operations.

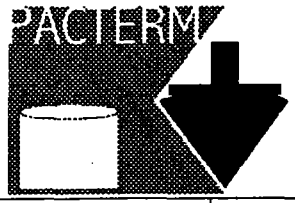
June 21, 2006
To Whom It May Concern:

Subject: List of Persons In Charge

Each of the following individuals have met all of the qualifications for designation as a Person In Charge of oil transfer operations at the Pacific Terminal Services Portland Marine Fuel Oil Facility:

- Gary Bucknum
- Mark Flower
- Tina Garrett
- Larry Lamb
- Burt Nye
- John Overly
- Bmce Staneart
- Jack Wild
- Tracy Wild

And No Others



DECLARATION OF INSPECTION

Before Transfer of Liquid Cargo in Bulk

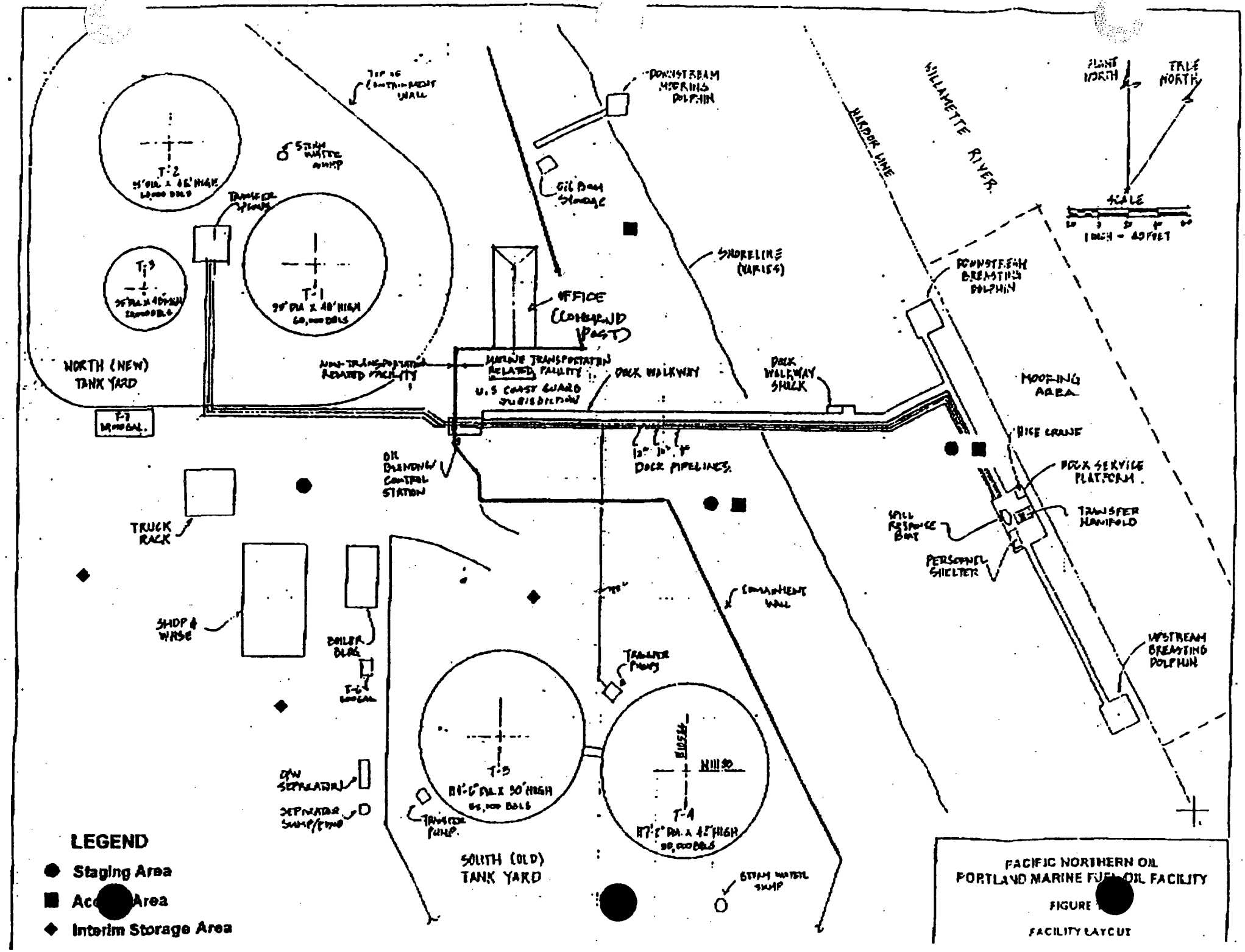
Date:			
Facility Name:		Address/Location:	
Vessel Name:			
Products Transferred:			
MAWP (psig)	Hose:	Facility Piping:	Vessel Piping
Communication:	Radio Frequency:		Radio Channel:

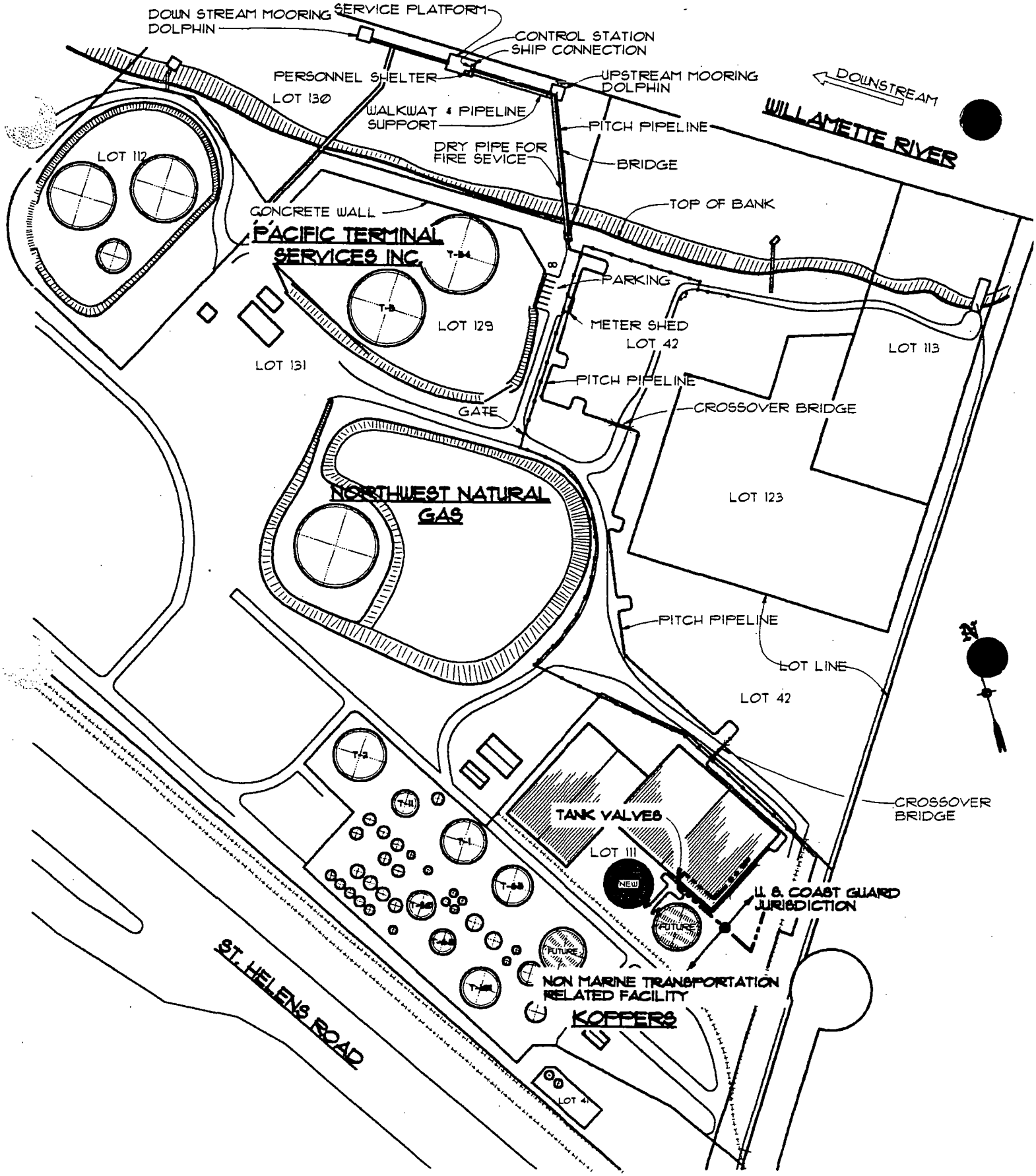
I, the Vessel Person-In-Charge of the transfer of liquid cargo in bulk, do certify that I have personally inspected this vessel with reference to the following requirements set forth in 46 CFR 35.35-30 and that opposite each of the applicable items listed below I have indicated whether the vessel complies will all pertinent regulations.	Vessel PIC
Warning signs displayed (1)	
Permission given for repair work, if any (2)	
Tight connections made, drip pans in place, and valves set (3)	
Fixed connections with no open end hoses through cargo hatches (4)	
No fires or open flames on deck (5)	
Facility ready for cargo transfer (6)	
Sea valves in cargo piping are closed (7)	
Boiler fires, if any, can be safely maintained (8)	
Galley fires, if any, can be safely maintained (9)	
Smoking permitted in designated areas (10)	
Smoking areas are designated (11)	
Inert gas maintained in cargo tanks, if applicable (12)	
Vessel Response Plan ready for implementation (13)	

	33 CFR 156.120	Facility PIC	Vessel PIC
Vessel moorings are strong enough and long enough	(a)		
Hoses are long enough	(b)		
Hoses are supported to prevent kinking or strain on connections	(c)		
Transfer systems are aligned	(d)		
Unused transfer systems are blanked off	(e)		
Unused hose ends are blanked off	(f)		
Fixed connections or automatic nozzles are used on vessel	(g)		
Overboard discharge and sea suction valves closed/sealed on vessel	(h)		
Transfer hose has no unrepaired defects or damage	(f)		
Hose burst pressure, MAWP, and markings meet 33 CFR 154.500	(j)		
Connections meet 33 CFR 158.130	(k)		
Monitoring devices are installed and operating, if required	(l)		
Discharge containment equipment is ready for deployment	(m)		
Small discharge containment is in place under each hose connection	(n)		
Vessel drains and scuppers are mechanically closed	(o)		
All connections are leak free	(p)		
Required communication is operable	(q)		
Emergency Shutdown is operable	(r)		
Vessel and Facility Persons-In-Charge are present per 33 CFR 156.115	(s)		
Each PIC is at the site of the transfer and is immediately available to transfer personnel	(t)(1)		
Each PIC has a copy of the Facility Operations Manual or Vessel Transfer Procedures, as appropriate	(t)(2)		
Each PIC conducts the transfer operations in accordance with the Facility Operations Manual or Vessel Transfer Procedures, as appropriate	(t)(3)		
Required transfer personnel are on-duty	(u)(1)		
Transfer personnel conduct the transfer operations in accordance with the Facility Operations Manual or Vessel Transfer Procedures, as appropriate	(u)(2)		
Both Persons-In-Charge are fluent in English			
The Persons-In-Charge have held a conference to confirm the following:	(w)		
Products to be transferred	(1)		
Sequence of transfer operations	(2)		
Transfer flow rates	(3)		
Name or title and location of transfer personnel	(4)		
MAWP's for hoses and piping at facility and on vessel	(5)		
Critical stages of transfer operation	(6)		
Federal, State, and local rules for transfer	(7)		
Emergency Procedures	(8)		
Discharge containment procedures	(9)		
Discharge reporting procedures	(10)		
Watch and shift arrangement	(11)		
Transfer shutdown procedures	(12)		
Agreement on radio frequency for communications, if used	(13)		
Agreement to begin transfer	(x)		
Lighting for nighttime transfer is provided	(y)		
Overfill devices are installed and operating propedy, if required	(bb)		
Smoking in designated areas only at facility	(cc)		
Welding and hot work prohibited on vessel during transfer	(dd)		
Smoking on vessel in designated areas only during transfer	(dd)		

As indicated by our initials in the appropriate spaces above and by our signatures below, we, acting as the Facility and Vessel Persons-In-Charge have determined by inspection that the facility or vessel, as appropriate, meet 33 CFR 155.120 and that we are both ready to begin transferring product.

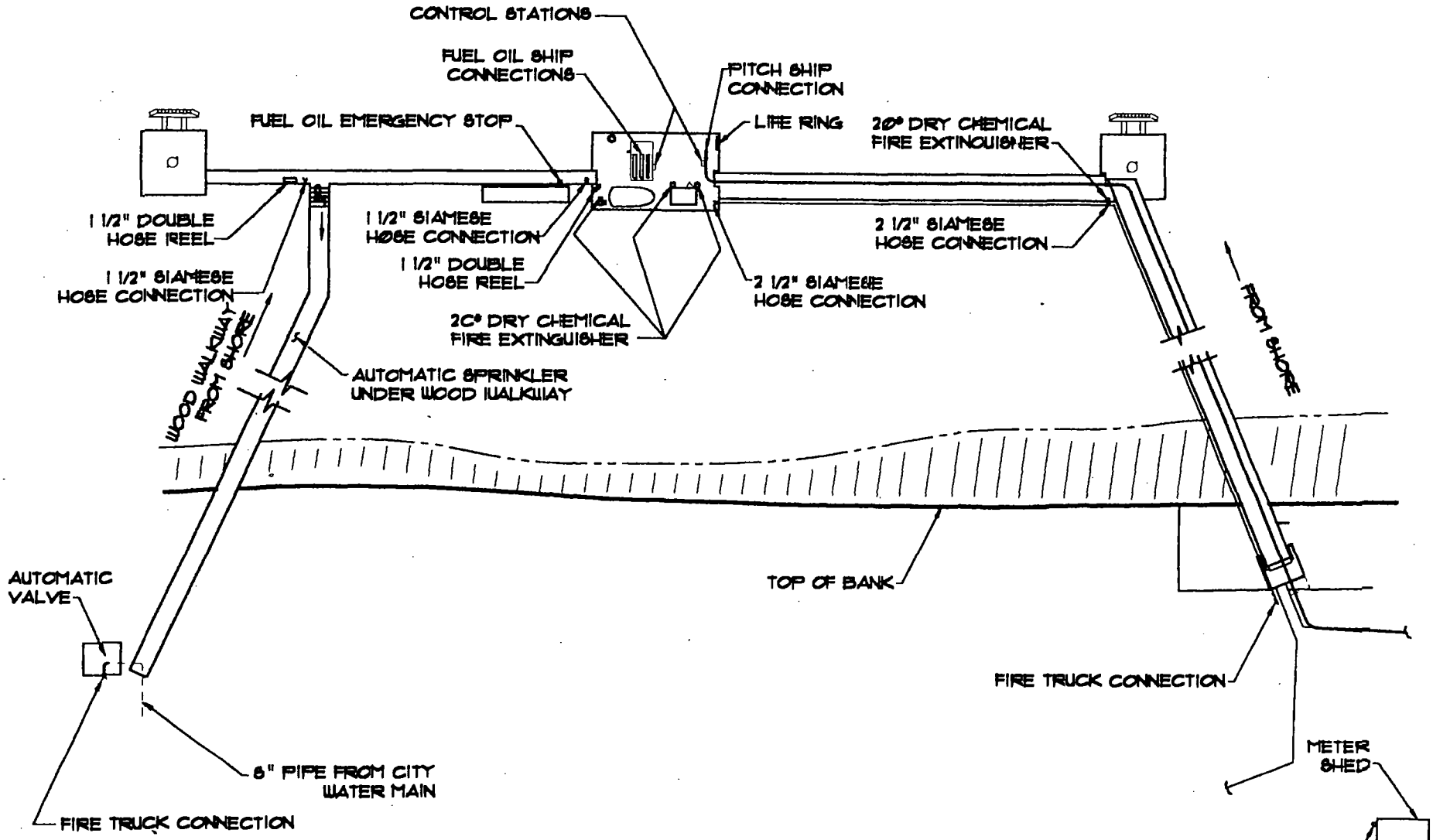
Facility Person-In-Charge	Vessel Person-In-Charge	Start of Transfer	
Name	Name	Date	Time
Title	Title		
Signature	Signature	Completion of Transfer	
Date of Signing	Date of Signing	Date	Time
Time of Signing	Time of Signing		


TOP OF CONTAINMENT WALL
DOWNSTREAM MOORING DOLPHIN
WILLAMETTE RIVER
HARBOR LINE
PLANT NORTH
TRUE NORTH
SCALE
1 INCH = 40 FEET
STEAM WATER SUMP
T-2
T-3
T-1
TRANSFER PUMPS
OIL DRAIN STORAGE
SHORELINE (VARIES)
OFFICE (COMBINED POST)
DOWNSTREAM BREASTING DOLPHIN
NORTH (NEW) TANK YARD
NON-TRANSPORTATION RELATED FACILITY
MARINE TRANSPORTATION RELATED FACILITY
U.S COAST GUARD JURISDICTION
DOCK WALKWAY
DOCK WALKWAY SHACK
MOORING AREA
T-4 MINIMAL
OIL BLENDING CONTROL STATION
12" 10" 8" DOCK PIPELINES
DICE CRANE
DOCK SERVICE PLATFORM
TRUCK RACK
SPILL RESPONSE BOAT
TRANSFER MANIFOLD
PERSONNEL SHELTER
CONTAINMENT WALL
SHOP & WARE
BOILER BLDG.
T-6 MINIMAL
UPSTREAM BREASTING DOLPHIN
T-5
T-4
OIL SEPARATOR
SEPARATOR SUMP/TANK
TRANSFER PUMP
SOUTH (OLD) TANK YARD
STEAM WATER SUMP
LEGEND
Staging Area
Access Area
Interim Storage Area
FACIFIC NORTHERN OIL
PORTLAND MARINE FUEL OIL FACILITY
FIGURE
FACILITY LAYOUT



KOPPERS PITCH FACILITY & PITCH PIPELINE

FIG 2-3



PIER FIRE PROTECTION & SAFETY EQUIPMENT

FIG 3-3

MATERIAL SAFETY DATA SHEET
(English - FAMM)

FAMM

INTERMEDIATE MARINE FUEL

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MATERIAL IDENTITY

Product code and name:
GEN08 INTERMEDIATE MARINE FUEL
Chemical name and/or family or decription:
Marine Fuel Oil
Manufacturer's name and address:
FUEL AND MARINE MARKETING LLC
or its Subsidiaries
2000 Westchester Avenue
White Plains, NY 10650

Transportation emergency:
(914) 831-3400
CHEMTREC (USA): (800) 424-9300

Health emergency-Company:(914)831-3400

MSDS Assistance (USA):(914)838-7204

2. COMPOSITION/INFORMATION ON INGREDIENTS

Product and/or component(s) Carcinogenic According to:

OTHER

This Material Safety Data Sheet may be used for the following products for Hazard Communications purposes only, not intended to imply identical performance/technical specifications:

03002 Intermediate Marine Fuel IF-30
03003 Intermediate Marine Fuel IF-40
03004 Intermediate Marine Fuel IF-60
03006 Intermediate Marine Fuel IF-80
03008 Intermediate Marine Fuel IF-100
03010 Intermediate Marine Fuel IF-120
03013 Intermediate Marine Fuel IF-150
03015 Intermediate Marine Fuel IF-180
03020 Intermediate Marine Fuel IF-240
03025 Intermediate Marine Fuel IF-280
03030 Intermediate Marine Fuel IF-320
03035 Intermediate Marine Fuel IF-380
03040 Intermediate Marine Fuel IF-420
03045 Intermediate Marine Fuel IF-460

Name	CAS Nr	Range in %

Name	CAS Nr	Range in %
Atmospheric tower petroleum residues (CAS No. 64741453) or light vacuum petroleum residues (CAS No. 64741566) blended with heavy catalytic cracked petroleum distillates (CAS No. 64741613), light catalytic cracked petroleum distillates (CAS No. 64741599), catalytic cracked clarified petroleum oils (CAS No. 64741624), or pyrolysis fuel oil (CAS No. 69013214) to prescribed viscosity ranges.		100

PRODUCT IS HAZARDOUS ACCORDING TO OSHA (1910.1200).

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

WARNING STATEMENT

WARNING !
FLAMMABLE HEADSPACE VAPORS MAY BE PRESENT
MAY CAUSE DIZZINESS AND DROWSINESS
CONTAINS OR MAY RELEASE HYDROGEN SULFIDE GAS (H2S) H2S GAS IS HARMFUL OR FATAL IF INHALED H2S GAS IS IRRITATING TO EYES AND RESPIRATORY TRACT H2S GAS MAY ACCUMULATE IN CONFINED SPACES
MAY CAUSE EYE IRRITATION
COMBUSTIBLE LIQUID AND VAPOR
USE ONLY AS A FUEL
CONTAINS CATALYTICALLY CRACKED CLARIFIED OIL WHICH MAY CAUSE CANCER AND BIRTH DEFECTS BASED ON ANIMAL DATA
CONTAINS MIDDLE DISTILLATES WHICH MAY CAUSE CANCER BASED ON ANIMAL DATA

PRECAUTIONARY MEASURES:

-Keep away from heat, sparks or flame.
-Use only with adequate ventilation.
-H2S gas deadens sense of smell. Do not depend on odor to detect presence of gas.
-Use supplied air respiratory protection for cleaning large spills or upon entry into tanks, vessels, or other confined spaces.
-Avoid breathing vapor, mist, or gas.
-Avoid contact with eyes, skin, and clothing.
-Rescue procedures should be attempted ONLY after notifying others of emergency and ONLY if appropriate personal equipment is available.
-Keep container closed.
-Wash thoroughly after handling.

HMIS

Health:
1

. HAZARD IDENTIFICATION (cont'd)

Flammability:
2
Reactivity:
0
Special:
-
NFPA

Health:
1
Flammability:
2
Reactivity
0
Special:
-
Primary Route of Exposure:
EYES
SKIN
INHALATION
EFFECTS OF OVEREXPOSURE

Acute:

Eyes:
May cause irritation, experienced as mild discomfort and seen as slight excess redness of the eye.

Skin:
Brief contact may cause slight irritation. Prolonged contact, as with clothing wetted with material, may cause more severe irritation and discomfort, seen as local redness and swelling.
Other than the potential skin irritation effects noted above, acute (short term) adverse effects are not expected from brief skin contact, see other effects, below, and Section 11 for information regarding potential long term effects.
Prolonged, widespread, or repeated skin contact may result in the absorption of potentially harmful amounts of material.

Inhalation:
Vapors or mist, in excess of permissible concentrations, or in unusually high concentrations generated from spraying, heating the material or as from exposure in poorly ventilated areas or confined spaces, may cause irritation of the nose and throat, headache, nausea, and drowsiness.
Contains or may release hydrogen sulfide (H2S) gas. H2S concentrations above permissible concentrations can cause irritation of the eyes and respiratory tract, headache, dizziness, nausea, vomiting, diarrhea, and pulmonary edema. At concentrations above 300 ppm, respiratory paralysis, causing unconsciousness and death, can occur Prolonged or repeated overexposure may result in the absorption of potentially harmful amounts of material.

3. HAZARD IDENTIFICATION (cont'd)

Ingestion:
If more than several mouthfuls are swallowed, abdominal discomfort, nausea, and diarrhea may occur.
Sensitization Properties:
Unknown.
Chronic:
Repeated skin contact may cause a persistent irritation or dermatitis.
Medical Conditions Aggravated by Over Exposure:
Because of its irritating properties, repeated skin contact may aggravate an existing dermatitis (skin condition).
Other Remarks:
Heating or calcining (in temperatures between 350 and 1800 **F**) or other processing may release particulate and/or gaseous polynuclear aromatic hydrocarbons (polycyclic aromatic hydrocarbons). These are also known as coal tar pitch volatiles. lARC has concluded that there is sufficient evidence for carcinogenicity for coal tar pitches in humans and laboratory animals. The ACGIH TLV/TWA is 0.2 mg/m3.

4. FIRST AID MEASURES

Eyes:
Immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids apart while flushing to rinse entire surface of eye and lids with water. Get medical attention.
Skin:
Wash skin with plenty of soap and water until all traces of material are removed. Remove and clean contaminated clothing (See Other Instructions). Destroy non-resistant footwear. Get medical attention if skin irritation persists or contact has been prolonged.
Ingestion:
If more than several mouthfuls of this material are swallowed, give two glasses of water (16 oz.). Get medical attention.
Inhalation:
If inhaled, remove to fresh air. If not breathing, clear person's airway and give artificial respiration. If breathing is difficult, qualified medical personnel may administer oxygen. Get medical attention immediately.
Other Instructions:
Remove and dry-clean or launder clothing soaked or soiled with this material before reuse. Dry cleaning of contaminated clothing may be more effective than normal laundering. Inform individuals responsible for cleaning of potential hazards associated with handling contaminated clothing.
Note to Physician:
Inhalation exposure may result in respiratory tract injury, the delayed onset of pulmonary edema, and may predispose patient to secondary respiratory infection. Persons exposed to high concentrations should be hospitalized for observation. Contact a Poison Center for additional treatment information.

5. FIRE-FIGHTING MEASURES

Ignition Temperature - AIT (degrees C):
Not determined.
Flash Point (degrees C):
60.00 (CC)
Flammable Limits (%):

Recommended Fire Extinguishing Agents and Special Procedures:
Use water spray, dry chemical, foam or carbon dioxide to extinguish flames. Use water spray to cool fire-exposed containers.
Unusual or Explosive Hazards:
Vapor space in closed container can contain hydrogen sulfide (H2S) in explosive concentrations. Hydrogen sulfide gas may be released when heated. Toxic vapors formed on burning.
Extinguishing Media Which Must Not be Used:
Not evaluated.
Special Protective Equipment for Firefighters:
Wear full protective clothing and positive pressure breathing apparatus.
FIRE:
In case of fire, use water spray, dry chemical, foam or carbon dioxide. Water may cause frothing. Use water spray to cool fire-exposed containers.

6. ACCIDENTAL RELEASE MEASURES

Procedures in Case of Accidental Release, Breakage or Leakage:
Ventilate area. Avoid breathing vapor. Wear appropriate personal protective equipment, including appropriate respiratory protection. Contain spill if possible. Wipe up or absorb on suitable material and shovel up. Prevent entry into sewers and waterways. Avoid contact with skin, eyes or clothing.

7. HANDLING AND STORAGE

Precautions to be Taken in

Handling:
This product contains residual fuels which must be considered as a potential flammability risk. Light hydrocarbons may be released in the headspace vapors of bunker tanks, cargo tanks, and land based terminal storage tanks. The headspace vapors may be flammable at temperatures below the flashpoint of the liquid.
Storage:
Store away from heat and open flame. Periods of exposure to high temperatures should be minimized. Water contamination should be avoided.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective Equipment (Type)

Eye/Face Protection:
Safety glasses, chemical type goggles, or face shield recommended to prevent eye contact.

Skin Protection:
Protective clothing such as coveralls or lab coats should be worn. Launder or dry-clean when soiled. Gloves and boots resistant to chemicals and petroleum distillates required.

Respiratory Protection:
When Hydrogen Sulfide (H2S) concentrations are unknown or are equal to or greater than 10 ppm, (as in such activities as: loading, unloading, guaging, cleaning large spills or upon entry into tanks, vessels, or other confined spaces, and during rescue of individuals suspected to be overexposed to H2S), use supplied-air (airline or self-contained breathing apparatus) respiratory protection (NIOSH/MSHA Approved). The respirators must be equipped with pressure-demand regulators and operated in the pressure-demand mode ONLY. If airline units are used, a 5-minute egress bottle MUST also be carried. GAS MASKS OR OTHER AIR-PURIFYING RESPIRATORS MUST NEVER BE USED FOR H2S DUE TO POOR WARNING PROPERTIES OF THE GAS.

Ventilation:
Local exhaust ventilation recommended if generating vapor, dust, or mist. If exhaust ventilation is not available or inadequate, use MSHA or NIOSH approved respirator as appropriate.

Exposure Control for Total Product:
None established for product. Recommend coal tar pitch volatiles (benzene soluble fraction): Coal tar pitch volatiles: OSHA PEL-TWA 0.2 mg/m3. Hydrogen sulfide: OSHA PEL-TWA 10 ppm, STEL 15ppm. ACGIH TLV-TWA 10 ppm, STEL 15 ppm.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:
N.D.

Odor:
Not determined

Boiling Point (degrees C):
Not determined.

Melting/Freezing point (degrees C):
Not applicable.

Specific Gravity (water=1):
Not determined.

pH of undiluted product:
Not applicable.

Vapor Pressure:
Not determined.

9. PHYSICAL AND CHEMICAL PROPERTIES (cont'd)

Viscosity (degrees C):
30 - 460 cSt (50.00)
VOC Content:
Not determined.
Vapor Density (air=1):
Not determined.
Solubility in Water (%):
Not determined.
Other:
None

10. STABILITY AND REACTIVITY

This material reacts violently with:
Strong Oxidizers
Comments:
None
Products Evolved When Subjected to Heat or Combustion:
Toxic levels of carbon monoxide, carbon dioxide, irritating aldehydes and ketones. May evolve hydrogen sulfide, sulfur oxides and other sulfur containing compounds.

-

Hazardous Polimerizations:
No

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION (ANIMAL TOXICITY DATA)

Median Lethal Dose

Oral:
LD50 Believed to be > 5.00 g/kg (rat) practically non-toxic
Inhalation:
Not determined.
Dermal:
LD50 Believed to be > 2.00 g/kg (rabbit) practically non-toxic
Irritation Index, Estimation of Irritation (Species)

Skin:
(Draize) Believed to be > .50 - 3.00 /8.0 (rabbit) slightly irritating
Eyes:
(Draize) Believed to be > 15.00 - 25.00 /110 (rabbit) slightly irritating
Sensitization:
Not determined.

11. TOXICOLOGICAL INFCRMATION (cont'd)

Other:
Repeated dermal application of Catalytically Cracked Clarified Oil to experimental animals has been reported to elicit skin cancer, mortality and toxic effects towards the liver, thymus and bone marrow, the latter effect was accompanied by anemia. The kidney and adrenal glands have also been reported as target organs of this material. Dermal application of Catalytically Cracked Clarified Oil to preganant experimental animals has also been reported to elicit toxic effects towards the developing offspring. Catalytically Cracked Clarified Oil has been reported as a genetic toxicant in experimental studies.
Middle distillates have caused skin irritation and skin cancer in laboratory animals when repeatedly applied and left in place between applications. Studies to further evaluate the carcinogenic potential of middle distillates are currently underway. Kidney damage has also been observed in laboratory animals exposed to middle distillates.
A similar product, Texaco Fuel Oil C, is mutagenic to bacteria in the Modified Ames Test.

12. DISPOSAL CONSIDERATIONS

Waste Disposal Methods:
Dispose of this product in accordance with local and/or national regulations.
US/RCRA Waste Disposal Methods:
This product (as presently constituted) has the RCRA characteristics of ignitability, and, if discarded in its present form, would have the hazardous waste number of D001. Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because product uses, transformations, mixtures, processes, etc. may change the classification to non-hazardous, or hazardous for reasons other than, or in addition to ignitability.
Remarks:
None

13. TRANSPORT INFORMATION

DOT:
Diesel fuel
3
Identification Number:
UN1202
Packing Group:
III
Label Required:
Flammable liquid
IMDG:
Not evaluated

13. TRANSPORT INFORMATION (cont'd)

ICAO:
Not evaluated
TDG:
Not evaluated

14. REGULATORY INFORMATION

Regulatory Information:

SARA 311 Hazard Categorization:
Acute
Chronic
Fire
Regulated Chemicals:

WHMIS:
Not determined
Regulatory Comments:
This product, or its components, are listed on or are exempt from the Toxic Substance Control Act (TSCA) Chemical Substance Inventory.

The Japanese Ministry of International Trade and Industry (MITI) inventory status of this product has not been determined.

The European Inventory of Chemical Substances (EINECS) or the European List of Notified Chemical Substances (ELINCS) status of this product has not been determined.

The Canadian Domestic Substances List (DSL) status of this product has not been determined.

The Australian Inventory of Chemical Substances (AICS) status of this product has not been determined.

15. ENVIROMENTAL INFORMATION

Aquatic Toxicity:
Not determined.
Mobility:
Not determined.
Persistence and Biodegradability:
Not determined.
Potential to Bioaccumulate:
Not determined.
Remarks:
None

16. OTHER INFORMATION

Other Information:

Hazardous concentrations of hydrogen sulfide (H2S) gas can accumulate in storage and rundown tanks, marine vessel compartments, sump pits or other confined spaces. When opening valves, hatches and dome covers, stand upwind, keep face as far from the opening as possible and avoid breathing any gases or vapors. When exposure concentrations are unknown and respiratory protection is not used, personal H2S warning devices should be worn. These devices should not be relied on to warn of life threatening concentrations. H2S fatigues the sense of smell rapidly. The rotten egg odor of H2S disappears quickly, even though high concentrations are still present. The ACGIH TLV/TWA for H2S is 10 ppm, the ACGIH STEL is 15 ppm.

Texaco recommends that all exposures to this product be minimized by strictly adhering to recommended occupational controls procedures to avoid any potential adverse health effects.

The ash from combustion products will contain nickel, vanadium, and other potentially toxic heavy metal oxides. Take appropriate precautions to avoid contact with and inhalation of ash from combustion and exhaust spaces.

THIS PRODUCT IS INTENDED FOR USE AS A FUEL ONLY.

17. PRODUCT LABEL

MATERIAL IDENTITY

Product code and name:

GEN08 INTERMEDIATE MARINE FUEL

This Material Safety Data Sheet may be used for the following products for Hazard Communications purposes only, not intended to imply identical performance/technical specifications:

03002 Intermediate Marine Fuel IF-30
03003 Intermediate Marine Fuel IF-40
03004 Intermediate Marine Fuel IF-60
03006 Intermediate Marine Fuel IF-80
03008 Intermediate Marine Fuel IF-100
03010 Intermediate Marine Fuel IF-120
03013 Intermediate Marine Fuel IF-150
03015 Intermediate Marine Fuel IF-180
03020 Intermediate Marine Fuel IF-240
03025 Intermediate Marine Fuel IF-280
03030 Intermediate Marine Fuel IF-320
03035 Intermediate Marine Fuel IF-380
03040 Intermediate Marine Fuel IF-420
03045 Intermediate Marine Fuel IF-460

17. PRODUCT LABEL (cont'd)

Atmospheric tower petroleum residues (CAS No. 64741453) or light vacuum petroleum residues (CAS No. 64741566) blended with heavy catalytic cracked petroleum distillates (CAS No. 64741613), light catalytic cracked petroleum distillates (CAS No. 64741599), catalytic cracked clarified petroleum oils (CAS No. 64741624), or pyrolysis fuel oil (CAS No. 69013214) to prescribed viscosity ranges.

CAS	%	100.00

PRODUCT IS HAZARDOUS ACCORDING TO OSHA (1910.1200).

WARNING STATEMENT

WARNING !
FLAMMABLE HEADSPACE VAPORS MAY BE PRESENT
MAY CAUSE DIZZINESS AND DROWSINESS
CONTAINS OR MAY RELEASE HYDROGEN SULFIDE GAS (H2S) H2S GAS IS HARMFUL OR FATAL IF INHALED H2S GAS IS IRRITATING TO EYES AND RESPIRATORY TRACT H2S GAS MAY ACCUMULATE IN CONFINED SPACES
MAY CAUSE EYE IRRITATION
COMBUSTIBLE LIQUID AND VAPOR
USE ONLY AS A FUEL
CONTAINS CATALYTICALLY CRACKED CLARIFIED OIL WHICH MAY CAUSE CANCER AND BIRTH DEFECTS BASED ON ANIMAL DATA
CONTAINS MIDDLE DISTILLATES WHICH MAY CAUSE CANCER BASED ON ANIMAL DATA

PRECAUTIONARY MEASURES:

-Keep away from heat, sparks or flame.
-Use only with adequate ventilation.
-H2S gas deadens sense of smell. Do not depend on odor to detect presence of gas.
-Use supplied air respiratory protection for cleaning large spills or upon entry into tanks, vessels, or other confined spaces.
-Avoid breathing vapor, mist, or gas.
-Avoid contact with eyes, skin, and clothing.
-Rescue procedures should be attempted ONLY after notifying others of emergency and ONLY if appropriate personal equipment is available.
-Keep container closed.
-Wash thoroughly after handling.

HMIS

Health:
1
Flammability:
2
Reactivity:
0
Special:
-

7. PRODUCT LABEL (cont'd)

NFPA

Health:
1
Flammability:
2
Reactivity
0
Special:
-

Eyes:
Immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids apart while flushing to rinse entire surface of eye and lids with water. Get medical attention.

Skin:
Wash skin with plenty of soap and water until all traces of material are removed. Remove and clean contaminated clothing (See Other Instructions). Destroy non-resistant footwear. Get medical attention if skin irritation persists or contact has been prolonged.

Ingestion:
If more than several mouthfuls of this material are swallowed, give two glasses of water (16 oz.). Get medical attention.

Inhalation:
If inhaled, remove to fresh air. If not breathing, clear person's airway and give artificial respiration. If breathing is difficult, qualified medical personnel may administer oxygen. Get medical attention immediately.

Note to Physician:
Inhalation exposure may result in respiratory tract injury, the delayed onset of pulmonary edema, and may predispose patient to secondary respiratory infection. Persons exposed to high concentrations should be hospitalized for observation. Contact a Poison Center for additional treatment information.

FIRE:
In case of fire, use water spray, dry chemical, foam or carbon dioxide. Water may cause frothing. Use water spray to cool fire-exposed containers.

DOT:
Diesel fuel
3

Identification Number:
UN1202

Packing Group:
III

Label Required:
Flammable liquid

17. PRODUCT LABEL (cont'd)

Manufacturer's name and address:
FUEL AND MARINE MARKETING LLC
or its Subsidiaries
2000 Westchester Avenue
White Plains, NY 10650

Telephone numbers:

Transportation emergency:
(914) 831-3400
Health emergency-Company: (914)831-3400

Product Code	:GEN08
Date Issued: 1999-10-25	Supersedes:

THE INFORMATION CONTAINED HEREIN IS BELIEVED TO BE ACCURATE. IT IS PROVIDED INDEPENDENTLY OF ANY SALE OF THE PRODUCT FOR PURPOSE OF HAZARD COMMUNICATION AS PART OF THE COMPANY'S PRODUCT STEWARDSHIP PROGRAM. IT IS NOT INTENDED TO CONSTITUTE PERFORMANCE INFORMATION CONCERNING THE PRODUCT. NO EXPRESS WARRANTY, OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS MADE WITH RESPECT TO THE PRODUCT OR THE INFORMATION CONTAINED HEREIN. DATA SHEETS ARE AVAILABLE FOR ALL THE COMPANY'S PRODUCTS. YOU ARE URGED TO OBTAIN DATA SHEETS FOR ALL THE COMPANY'S PRODUCTS YOU BUY, PROCESS, USE OR DISTRIBUTE AND YOU ARE ENCOURAGED AND REQUESTED TO ADVISE THOSE WHO MAY COME IN CONTACT WITH SUCH PRODUCTS OF THE INFORMATION CONTAINED HEREIN. TO DETERMINE APPLICABILITY OR EFFECT OF ANY LAW OR REGULATION WITH RESPECT TO THE PRODUCT, USER SHOULD CONSULT HIS LEGAL ADVISOR OR THE APPROPRIATE GOVERNMENT AGENCY. THE COMPANY DOES NOT UNDERTAKE TO FURNISH ADVICE ON SUCH MATTERS.

CALORIA HT 43
EXXON COMPANY, U.S.A

DATE ISSUED: 02/22/95
SUPERSEDES DATE: 09/15/93

MATERIAL SAFETY DATA SHEET

EXXON COMPANY, U.S.A. P.O. BOX 2190 HOUSTON, TX 77252-2180

A. IDENTIFICATION AND EMERGENCY INFORMATION

PRODUCT NAME
CALORIA HT 43

PRODUCT CODE
333296

PRODUCT CATEGORY
Petroleum Process Oil

PRODUCT APPEARANCE AND ODOR
Clear liquid, light yellow color
Paint petroleum hydrocarbon odor

MEDICAL EMERGENCY TELEPHONE NUMBER
(713) 656-3424

B. COMPONENTS AND HAZARD INFORMATION

COMPONENTS	CAS NO. OF COMPONENTS	APPROXIMATE CONCENTRATION
Distillates (petroleum), hydrotroated heavy paraffinic	64742-54-7	Greater than 99%
Or	or	
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	
Proprietary additives	Mixture	Less than 1%

This product, as manufactured by Exxon, does not contain polychlorinated biphenyls (PCB's).

All components of this product are listed on the U.S. TSCA inventory.

See Section S for Health and Hazard Information.

See Section H for additional Environmental Information.

RDOUS MATERIALS IOBNTIFICATION SYSTEM (HMIS)

Health	Flammability	Reactivity	BASIS
1	1	0	Recommended by Exxon

EXPOSURE LIMIT FOR TOTAL DUCT	BASIS
5 mg/m3 for oil mist (s ol) for	OSHA Regulation 29 CPR 1910.1000 and

(ACGIH). ACGIH states that the air is to be sampled by a method that does noc collact vapor; in addition, it lists a 10 mg/m3 STEL.

C. PRIMARY ROUTES OF ENTRY AND EMERGENCY AND FIRST AID PROCEDURES

YE CONTACT
If splashed into the eyes, flush with clear water for 15 minutes or until irritatian subsides. If irritation paraists, call a physician.

KIN
In oase of skin contact, remove any contaminated clothing and wash shin with soap and water. Launder or dry-clean clothing before reuse. If product ia injeoted into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated Immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few houre may aignificancly reduce the ultimate extent of injury.

NHALATION
Vapor pressure is very low. Vapor inhalation under ambient conditions is n[redacted]lly not a problem. If overcome by vapor from hot product, immediately r[redacted]e from exposure and call a physician. If breathing is irregular or has st[redacted]ped, start resuscitation; administer oxygen, if available. If overexposed to oil miet, remove from further exposure until excessive oil mist condition subsides.

NGESTION
If ingested, DO NOT induce vomiting; call a physician immediately.

D. FIRS AND EXPLOSION HAZARD INFORMATION

LASH POINT (MINIMUM)
199~C (390~F)
ASTM D 92, Clevelond Open Cup

AUTOIGNITION TEMPERATURE
Greater than 315~C (600~F)

IATIONAL FIRE PROTECTION ASSOCIATION (NFPA) - HAZARD IDENTIFICATION

Health	Flammability	Reactivity	BASIS
1	1	0	Recommended by Exxon

IANDLIMG PRECAUTIONS
Uee product with caution around heat, sparks, pilot lights, static e[redacted]ricity, and open flame.

FLAMMABLE OR EXPLOSIVE LIMITS (APPROXIMATS PERCENT BY VOLUME IN AIR)
Estimated values: Lower Flammable Limit 0.9% Upper Flammable Limit 7%

IXTINGUIBHING MSDIA AND FIRE PIOHTING PROCEDURES

Prolonged or repeated skin contact with this product tends to remove skin oils, possibly leading to irritation and dermatitis; however, based on human experience and available toxicological data, this product is judged to be neither a "corrosive" nor an "irritant" by OSHA criteria.

Product contacting the eyes may cause eye irritation.

Product has a low order of acute oral and dermal toxicity, but minute amounts aspirated into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly death.

This product is judged to have an acute oral LD50 (rat) greater than 5 g/kg of body weight, and an acute dermal LD50 (rabbit) greater than 3.16 g/kg of body weight.

PRE-EXISTING MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE
None recognized

F. PHYSICAL DATA

The following data are approximate or typical values and should not be used for precise design purposes.

BOILING RANGE
Approximately 293~C (560~F)
by ASTM D 2887

SPECIFIC GRAVITY (15.6~C/15.6~C)
0.88

MOLECULAR WEIGHT
Approximately 372

pH
Essentially neutral

POUR, CONGEALING OR MELTING POINT
-6~C (20~F)
Pour Point by ASTM D 97

VISCOSITY
160 SSU @ 100~F

VAPOR PRESSURE
Less than 0.01 mm Hg @ 20~C

VAPOR DENSITY (AIR = 1)
Greater than 5

PERCENT VOLATILE BY VOLUME
Negligible from open container in 4 hours @ 38~C (100~F)

EVAPORATION RATE @ 1 ATM. AND 25~C (77~F) (n-BUTYL ACETATE = 1)
Less than 0.01

SOLUBILITY IN WATER @ 1 ATM. AND 25~C (77~F)
Negligible; less than 0.1%

REACTIVITY

This product is stable and will not react violently with water. Hazardous polymerization will not occur. Avoid contact with strong oxidants such as liquid chlorine, concentrated oxygen, sodium hypochlorite, calcium

Keep containers closed when not in use. Do not store near heat, sparks, flame or atrong oxidants.

In order to prevent fire or explosion hazards, use appropriate equipment.

Information on electrical equipmsnt appropriate fcr use with this product may be found in the lateet edition of the National Elactrical Code (NFPA-70). This document is available from the National Fira Protection Association, Batterymarch Park, Quincy, Massachusetts 02269.

PERSONAL HYGIENE

Minimize brsathing vapor, mist or fumes. Avoid prolonged or repeated contact with skin. Remove contaminated clothing; launder or dry-claan before re-uee. Remove contaminated shoes and thoroughly clean before re-use; discard if oil-soaked. Cleanse akin thoroughly after contact, before breaks and meals, and at end of work period. Product is readily removed from skin by waterless hand cleaners followed by washing thoroughly with soap and watar.

J. TRANSPORTATION AND OSHA RELATED LABEL INFORMATION

TRANSPORTATION INCIDENT INFORMATION

For further information relative to spills resulting from transpcrtation incidents, refer to latest Department of Transportation Emergency Response Guidebook for Hazardous Materiale Incidents.

U.S. DOT HAZARDOUS MATERIALS SHIPPING DESCRIPTION

Not regulated

OSHA REQUIRED LABEL INFORMATION

In compliance with hazard and right-to-knew requirements, whars applicable OSHA Hazard Warnings may bs found on the label, bill of lading or invoice accompanying this shipment.

Note: Product label may contain non-OSHA related information also.

The information and recommendations contained herein are, to the best of Exxon's knowledge and belief, accurate and reliable as of the date issued. Exxon does not warrant or guarantee their accuracy or reliability, and Exxcn shall not be liable for any loss or damage arising cut of the uee thereof.

The information and recommendations are offared for the user's consideration and examinatien, and it is tha user's responsibility to aatisfy itself that they are suitable and complats for its particular use. If buyer repackages this product, legal counsel should be consulted tc insure proper health, safety and other necessary information is included on the container.

The Environmental Information included under Section H hereof as well as the Hazardous Materials Identification System (HMIS) and National Fire Protection Association (NFPA) ratings have been included by Exxon Company, U.S.A. in order

H. ENVIRONMENTAL INPOR .TION

N WATER ACT / OIL POLLUTION ACT
is product may be classified as an oil under Section 311 of the Clean Water Act, and under the Oil Pollution Act. Discharges or spills into or leading to surface waters that cause a sheen must be reported to the National Response Center (1-800-424-8802).

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Recover free product. Add sand, earth, or other suitable absorbent to spill area. Minimize skin contact. Keep product out of sewers and watercourses by diking or impounding. Advise authorities if product has entered or may enter sewers, watercourses, or extensive land areas.

Assure conformity with applicable governmental regulations.

THE FOLLOWING INFORMATION MAY BE USEFUL IN COMPLYING WITH VARIOUS STATE AND FEDERAL LAWS AND REGULATIONS UNDER VARIOUS ENVIRONMENTAL STATUTES:

THRESHOLD PLANNING QUANTITY (TPQ), EPA REGULATION 40 CFR 355
(SARA Sections 301-304)
No TPQ for product or any constituent greater than 1% or 0.1% (carcinogen).

TOXIC CHEMICAL RELEASE REPORTING, EPA REGULATION 40 CFR 372 (SARA Section 313)
No toxic chemical is present greater than 1% or 0.1% (carcinogen).

RDOUS CHEMICAL REPORTING, EFA REGULATION 40 CFR 370 (SARA Sections 311-312)

HAZARD CLASSIFICATION CODE:	Acute Hazard	Chronic Hazard	Fire Hazard	Pressure Hazard	Reactive Hazard	Not Applicable
						XXX

I. PROTECTION AND PRECAUTIONS

VENTILATION
Use local exhaust to capture vapor, mists or fumes, if necessary. Provide ventilation sufficient to prevent exceeding recommended exposure limit or buildup of explosive concentrations of vapor in air. No smoking, or use of flame or other ignition sources.

RESPIRATORY PROTECTION
Use supplied-air respiratory protection in confined or enclosed spaces, if needed.

PROTECTIVE GLOVES
Use chemical-resistant gloves, if needed, to avoid prolonged or repeated skin contact.

PROTECTION
e splash goggles or face shield when eye contact may occur.

OTHER PROTECTIVE EQUIPMENT
Use chemical-resistant apron or other impervious clothing, if needed, to avoi contaminating regular clothing, which could result in prolonged or repeated skin contact.

Repeated and/or prolonged contact to high concentrations of vapor may result in respiratory difficulties, central nervous system (CNS) effects and possible cardiovascular collapse.

INGESTION: Ingestion of material are unlikely, but may cause gastrointestinal disturbances including irritation, nausea, vomiting, abdominal pain.

OTHER: See Section XIII (Comments) for additional information on health effects.

SECTION IV - EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT: Immediately flush with large amounts of water for 15 minutes. Immedistely seek medical aid.

SKIN CONTACT: Wash thoroughly with waterless hand cleaner. For contact with molten product, do not remove contaminated clothing. Flush skin Imaediately with large amounts of cold water. If possible, submerge area in cold water. Pack with Ice. Seek medical aid.

INHALATION: Remove from exposure. If breathing has stopped or is difficult, administer artificial respiration or oxygen as indicated. Seek medical aid.

INGESTION: If victim is conscious and alert, give 1-2 glasses of water or milk. Induce vomiting using ipecac syrup as directed on the label. After vomiting, the victim may be given a slurry of 100 g of activated charcoal in 8 oz. of water. Seek medical aid.

TO PHYSICIAN: DO NOT INDUCE VOMITING OR ATTEMPT TO GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. Individuals with erythrocyte glucose-6-phosphate dehydrogenase deficiency may be particularly sensitive to possible hemolytic effects.

SECTION V - FIRE AND EXPLOSION HAZARD INFORMATION

FLASH POINT & METHOD: >65C (>150F) PMCC AUTOIGNITION TEMP: ND

FLAMMABLE LIMITS (% BY VOLUME/AIR): LOWER: ND UPPER: ND

TDG FLAMMABILITY CLASSIFICATION: None

EXTINGUISHING MEDIA: Use dry chemical, carbon dioxide, foam or water spray. Water or foam may cause frothing, if molten.

FIRE-FIGHTING PROCEDURES: Wear complete fire service protective equipment, including full-face MSHA/NIOSH approved self-contained breathing apparatus. Use water to cool fire-exposed container/structure/protect personnel. Toxic vapors may be given off in a fire.

FIRE AND EXPLOSION HAZARDS: When heated (fire conditions), vapors/decomposition products may be released forming flammable/explosive mixtures in air. Closed containers may explode when exposed to extreme heat(fire).

SENSITIVITY TO MECHANICAL IMPACT: ND

SENSITIVITY TO STATIC DISCHARGE: ND

SECTION VI - SPILL, LEAK AND DISPOSAL INFORMATION

SPILL OR LEAK PROCEDURES (PRODUCT): Stop leak if no risk involved. Stay upwind. Solidified spills: Shovel into dry containers and cover. Flush area with water. Small wet spills: Take up with sand or other noncombustible absorbent material. Flush area with water. Dike large spills for later disposal. Contain runoff from fire control and dilution water.

DOT REPORTABLE QUANTITIES

10 lbs. Benzene

WASTE DISPOSAL: Dispose of in accordance with local, state, and federal regulations. If disposing in a state other than California, dispose of as an industrial waste in accordance with local, state, and federal regulations. This product contains coal tar constituents, which have been determined by IARC to be a carcinogen. Accoroing te California hazardous waste regulations, substances posing a hazard to huaan health because of carcinogenicity are hazardous wastes. Dispose of as a hazardous waste in the state of California.

SECTION VII - RECOMMENDED EXPOSURE LIMIT/HAZARDOUS INGREDIENTS

EXPOSURE LIMIT (PRODUCT):

[illegible] coal tar pitch volatiles, OSHA-PEL is 0.2 mg/m3 averaged over an 8 [illegible]our wo[illegible] shift, benzene soluble fraction of total particulate including dust, fumes and mists.

**skin

***OSHA Action Level - 0.5 ppm 8-hr. TWA

#Suspected Human Carcinogen

HAZARDOUS INGREDIENTS	CAS NUMBER	%BY WT.	EXPOSURE LIMIT (PPM;MG/M3)		
			OSHA-STEL	15	75
			NIOSH-TWA	10	50
			NIOSH-STEL	15	75
Cresol	1319-77-3	<5	ACGIH-THA	3	55**
			OSHA-THA	5	22**
			NIOSH-TWA	2.3	10
Indene	95-13-6	<3	ACBIH-TWA	10	48
			OSHA-TWA	10	45
Benz(a)anthracene	56-55-3	<1	NONE		
Benzo(b)fluoranthene	205-99-2	<1	NONE		
Benzo(k)fluoranthene	207-08-9	<1	NONE		
Benzo(j)fluoranthene	205-82-3	<0.5	NONE		
Benzo(a)pyrene	50-32-8	<1	NONE		
Dibenzo(a,h)anthracene	53-70-3	<0.5	NONE		
Indeno(1,2,3-cd)pyrene	193-39-5	<0.5	NONE		
[illegible]ensnthrene	85-01-8	<2	NONE		

---------- SARA TITLE III SECTION 313 CHEMICALS ----------
(SEE SECTION VII FOR CAS NUMBERS AND PERCENTAGES)

Naphthalene
Cresol
Benzene
Benz(a)anthracene
Benzo(b)fluoranthene/Benzo(k)fluoranthene
Phyenanthrene
Benzo(i)fluoranthene
Benzo(a)pyrene
Dibenzo(a,h)anthracene
Indeno(1,2,3-cd)pyrene

SECTION VIII - PERSONAL PROTECTION INFORMATION

EYE PROTECTION: Industrial safety glasses, minimum. As necessary to comply with 29 CFR 1910.133 and work area conditions, use side shields, goggles or face shield.

SKIN PROTECTION: As required, industrial resistant flexible-type gloves. Depending on working conditions, i.e., contact potential, wear impervious protective garments such as head/neck cover, aprons, jackets, pants, coveralls, boots, etc. See "Guidelines" noted previously. Wear industrial-type work clothing and safety footwear. See Sect. XIII-Comments for additional information on skin prutection recommendations.

RESPIRATORY PROTECTION: Not required under normal use conditions. If ventilation does not maintain inhalation exposures below TLV(PEL), use MSHA/NIOSH approved units as per current 29 CFR1910.134 and manufacturers' "Instructions" and "Warnings". Combination filter/organic vapor cartridges or canisters may be used.

VENTILATION: Provide sufficient general/local exhaust ventilation in pattern/volume to control inhalation exposures below current exposure limits and areas below flammable vapor concentrations.

SECTION IX - PERSONAL HANDLING INSTRUCTIONS

HANDLING: Avoid prolonged or repeated breathing of vapors, mists or fumes. Avoid prolonged or repeated contact with skin or eyes. Observe good personal hygiene practices and recommended procedures. Application of certain protective creams (sun screens for coal tar products) before working/several times during work may be beneficial.

STORAGE: Store in areas/buildings designed to comply with OSHA 1910.106. Keep in a closed, labeled container within a cool (well shaded), dry ventilated area. Protect from physical damage. Keep containers closed when material is not in use. Maintain good housekeeping.

OTHER: Not for use or storage in or around the home. DO NOT TAKE INTERNALLY. Do not use until manufacturer's precautions have been read/understood. Wash exposed

agrees preeptly end thoroughly after skin contact and before eating, drinking, ing tobacco products or rest rooms.

SECT' ' - REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY: None known

INCOHPATIBILITY: None known

HAZARDOUS REACTIONS/DECOMPOSITION/COMBC.. PRODUCTS: Toxic fumes may be esitted when burned.

CONOIT' CONTRIBUTING TO HAZARDOUS POLYMERIZATION: None

SECTION XI - PHYSICAL DATA

BOILING POINT: >100C (>212F) IBP SPECIFIC GRAVITY: >1.050

HELTINB POINT: NA % VOLATILE BY VOL: Negl:g.

VAPOR PRESSURE: <5mm Hg EVAPORATION RATE(ETHER=1): <1 Butylacetate=1

VAPOR DENSITY(AIR=1):>1 VISCOSITY: ND

SOLUBILITY: Negligible (WATER) pH: ND

:: NA

COEFFICIENT OF WATER/OIL DISTRIBUTION: negligible water*

APPEARANCE/ODOR: Black viscous liquid with aromatic odor.
*solubility

SECTION XII - TRANSPORT INFORMATION

--------- PRODUCT PACKAGED IN TANK CAR ---------

RQ ELEVATED TEMPERATURE MATERIAL, LIQUID, N.G.S.
(CONTAINS BENZO(A)PYRENE, DIBENZO(A,H)ANTHRACENE)
CLASS 9 NA9259 PG III
ELECTRODE BINDER
MARKED: HOT 9E59

--------- PRODUCT PACKAGED IN TANK TRUCK ---------

RQ ELEVATED TEMPERATURE MATERIAL, LICUID, N.O.S.
(CONTAINS BENZO(A)PYRENE, DIBENZO(A,H)ANTHRACENE)
CLASS 9 NA9259 PG III
PITCH, COAL
MARKED: HOT 9259

SECTION XIII - COMMENTS

This product contains coal tar pitch. The IARC monographs (Vol. 35) state that there is sufficient evidence that coal tar pitches are carcinogenic in humans and that there is sufficient evidence that occupational exposure to coal tars as it occurs during the destructive distillation of coal is causally associated with the occurrence of skin cancers in humans. It is also listed in NTP Report on Carcinogens & in OSHA Subpart Z.

Persons with a history of liver/kidney/skin/CNS/respiratory disease/blood forming organs, cataracts or exposure to materials harmful to these systems are at a greater than normal risk of developing adverse effects when working with this product.

This product contains benzene. The IARC monographs (Vol. 29) states that there is sufficient evidence for the carcinogenicity in humans and limited evidence for the carcinogenicity in animals. Benzene is also listed in the NTP Annual Report on Carcinogens and in the OSHA Subpart I Table (Specifically Regulated Substances).

May be absorbed through the skin including mucous membranes and eye either by airborne mist, or more particularly, by direct contact. Skin contact should be avoided. To the extent necessary, the use coveralls, goggles or other appropriate personal protective equipment, engineering controls or work practices should be utilized to prevent or reduce skin absorption.

No known ingredients which occur at greater than 0.1%, other than these listed above, are listed as a carcinogen In the IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humens, the NTP Annual Report on Carcinogens or OSHA 29 CFR 1910.1001-1047 subpart Z Toxic and Hazardous Substances (Specifically Regulated Substances).

SKIN PROTECTION (protective material): Permeation/degradation values of chemical mixtures cannot be predicted from pure components or chenical classes. Thus, these materials are normally best estimates based on available pure component data. A significant difference In chemical breakthrough time has been reported for gensrically similar gloves from different manufacturers (AIHA J., 48, 941-947 1987).

Do not use until manufacturer's precautions have bean read/understood. Wash exposed areas promptly and thoroughly after skin contact fron working with this product and before eating, drinking, using tobacco products or rest rooms.

Do not wear contact lens without proper eye protection when using this product.

Prepared By: Occupational Health and Product Safety Department

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REVISION DATE: 06/93 CODE NUMBER: IND00196JU9507
SPECIFICATION SHEET NUMBER: none REPLACES SHEET: IND00196DE9406
COMMOSITY NUMSER: A2600001

SUPPLIER INFORMATION: Same as manufacturer.

NOTICE: While the Inforeation and recommendations set forth herein are believed to be accurate as of the date hereof, Koppers Industries makes no warranty with respect thereto and disclaims all liability from reliance theraon.

MATERIAL SAFETY DATA SHEET

KOPPERS

MEDICAL EMERGENCIES: 1 800 553-5631
OUTSIDE U.S.A.: 418 227-2001
GENERAL INFORMATION: 415 826-3967

6/95

[redacted] INDUSTRIES, INC.
[redacted]ILLIAM PITT WAY
PITTSBURGH, PA. 15238

CHEMTREC ASSISTANCE 1 800 424-9300
CANUTEC: 1 613 996-6666

SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Carbon Pitch Liquid

COMMODITY NUMBER: 42600001

SYNONYM: None

DESCRIPTION: Distilled to produce naphthalens, creosote & pitch

CHEMICAL FAMILY: Polynuclear aromatic hydrocarbons

FORMULA: Complex mixture of hydrocarbons

CAS NUMBER: 65996-89-6

NFPA 704M/HMIS RATINS: 2/E HEALTH 2/2 FLAMMABILITY 1/1 REACTIVITY
0 = Least 1 = Slight 2 = Moderate 3 = High 4 = Extreme

CANADIAN PRODUCT CLASSIFICATION: Class D, Division 2, Subdivision A, Very Toxic Material - Class B, Division 3, Combustible Liquid

listed in Subchapter D Part 153 Table 1 Pollution Category D Hazard Class

SECTION II - HEALTH/SAFETY ALERT

CHRONIC OVEREXPOSURE (as defined by OSHA recommended standards)
MAY CAUSE CANCER
WARNING
HARMFUL TO THE SKIN, OR IF INHALED OR SWALLOWED
CAUSES EYE AND SKIN IRRITATION
AVOID PROLONGED AND/OR REPEATED CONTACT INCLUDING VAPORS
OBSERVE GOOD HYGIENE AND SAFETY PRACTICES WHEN HANDLING THIS PRODUCT
DO NOT USE THIS PRODUCT UNTIL MSDS HAS BEEN READ AND UNDERSTOOD

SECTION III - HEALTH HAZARD INFORMATION

EYE: Overexposure to vapor can result in irritation and/or corneal changes. Direct eye contact may cause irritation. Contact with heated material may cause thermal burns.

SKIN: Contact with skin can result in irritation which when accentuated by sunlight may result in a phototoxic skin reaction. Repeated and/or prolonged contact may cause more serious skin disorders including cancer. Contact with heated material may cause thermal burns. See Section XIII for additional information.

[redacted]TION: Overexposure to vapor may result in respiratory tract irritation.

rating systems, together with Exxon's interpretation of the available data.

FOR LUBRICANTS TECHNICAL ASSISTANCE CALL: 1-800-443-9966

FOR FUELS TECHNICAL ASSISTANCE CALL: 713-656-4955

FOR AN MSDS OR ASSISTANCE WITH AN MSDS, DIRECT INQUIRIES TO THE ADDRESS BELOW OR CALL:

MARKETING TECHNICAL SERVICES
EXXON COMPANY, U.S.A.
ROOM 2344
P. O. BOX 2180
HOUSTON, TX 77252-2180
(713) 656-5949

IF YOU HAVE AN IMMEDIATE NEED FOR AN MSDS, DIAL 1-800-298-4007 FOR A FAXED COPY.

MATERIAL SAFETY DATA SHEET
(English - FAMM)

FAMM

MARINE DIESEL BLEND

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MATERIAL IDENTITY

Product code and name:
00813 MARINE DIESEL BLEND
Chemical name and/or family or decription:
Marine Fuel Oil
Manufacturer's name and address:
FUEL AND MARINE MARKETING LLC
or its Subsidiaries
2000 Westchester Avenue
White Plains, NY 10650

Transportation emergency:
(504) 680-1900
CHEMTREC (USA): (800) 424-9300

Health emergency-Company: (504) 680-1900

MSDS Assistance (USA):(845)838-7204

2. COMPOSITION/INFORMATION ON INGREDIENTS

Product and/or component(s) Carcinogenic According to:

OTHER

Name	CAS Nr	Range in %
Blends of distillate and residual petroleum fractions to prescribed viscosity ranges.		100

PRODUCT IS HAZARDOUS ACCORDING TO OSHA (1910.1200).

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

WARNING STATEMENT
WARNING !
MAY CAUSE DIZZINESS AND DROWSINESS
CAUSES SKIN IRRITATION
MAY CAUSE EYE IRRITATION
ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE
COMBUSTIBLE LIQUID AND VAPOR
USE ONLY AS A FUEL
CONTAINS MIDDLE DISTILLATES WHICH MAY CAUSE CANCER BASED ON ANIMAL DATA

3. HAZARD IDENTIFICATION (cont'd)

PRECAUTIONARY MEASURES:
-Use only with adequate ventilation.
-Keep away from heat and flame.
-Avoid breathing vapor, mist, or gas.
-Avoid contact with eyes, skin, and clothing.
-Keep container closed.
-Wash thoroughly after handling.

HMIS

Health:
2
Flammability:
2
Reactivity:
0
Special:
-

NFPA

Health:
2
Flammability:
2
Reactivity
0
Special:
-

Primary Route of Exposure:
EYES
SKIN
INHALATION

EFFECTS OF OVEREXPOSURE

Acute:

Eyes:
May cause irritation, experienced as mild discomfort and seen as slight excess redness of the eye.

Skin:
Causes severe irritation with pain, severe excess redness and swelling with chemical burns, blister formation, and possible tissue destruction.
Other than the potential skin irritation effects noted above, acute (short term) adverse effects are not expected from brief skin contact, see other effects, below, and Section 11 for information regarding potential long term effects.
Prolonged, widespread, or repeated skin contact may result in the absorption of potentially harmful amounts of material.

3. HAZARD IDENTIFICATION (cont'd)

Inhalation:
Vapors or mist may cause irritation of the nose and throat.
Inhalation may cause dizziness, drowsiness, euphoria, loss of coordination, disorientation, headache, nausea, and vomiting. In poorly ventilated areas or confined spaces, unconsciousness and asphyxiation may result. Prolonged or repeated overexposure may result in the absorption of potentially harmful amounts of material.

Ingestion:
If more than several mouthfuls are swallowed, abdominal discomfort, nausea, and diarrhea may occur. Aspiration may occur during swallowing or vomiting resulting in lung damage.

Sensitization Properties:
Unknown.

Chronic:
NIOSH has recommended that whole diesel exhaust be regarded as a potential occupational carcinogen, based on findings of carcinogenic responses in laboratory animals exposed to whole diesel exhaust. The excess cancer risk for workers exposed to diesel exhaust has not been calculated, the probability of developing cancer should be decreased by minimizing exposure to the lowest feasible limits.
Repeated skin contact may cause a persistent irritation or dermatitis.

Medical Conditions Aggravated by Over Exposure:
Skin contact may aggravate an existing dermatitis (skin condition).

Other Remarks:
None

4. FIRST AID MEASURES

Eyes:
Immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids apart while flushing to rinse entire surface of eye and lids with water. Get medical attention.

Skin:
Immediately remove contaminated clothing and shoes. Under a safety shower, flush skin thoroughly with large amounts of running water for at least 15 minutes. Do not attempt to neutralize with chemical agents. Get medical attention immediately. Discard or decontaminate clothing and shoes before reuse.

Ingestion:
If person is conscious and can swallow, give two glasses of water (16 oz.) but do not induce vomiting. If vomiting occurs, give fluids again. Have medical personnel determine if evacuation of stomach or induction of vomiting is necessary. Do not give anything by mouth to an unconscious or convulsing person.

Inhalation:
If inhaled, remove to fresh air. If not breathing, clear person's airway and give artificial respiration. If breathing is difficult, qualified medical personnel may administer oxygen. Get medical attention immediately.

4. FIRST AID MEASURES (cont'd)

Other Instructions:
Remove and dry-clean or launder clothing soaked or soiled with this material before reuse. Dry cleaning of contaminated clothing may be more effective than normal laundering. Inform individuals responsible for cleaning of potential hazards associated with handling contaminated clothing.

Note to Physician:
Aspiration of this product during induced emesis may result in severe lung injury. If evacuation of stomach is necessary, use method least likely to cause aspiration, such as gastric lavage after endotracheal intubation. Contact a Poison Center for additional treatment information.

5. FIRE-FIGHTING MEASURES

Ignition Temperature - AIT (degrees C):
Not determined.

Flash Point (degrees C):
71.11 (CC)

Flammable Limits (%):

Recommended Fire Extinguishing Agents and Special Procedures:
Use water spray, dry chemical, foam or carbon dioxide to extinguish flames. Use water spray to cool fire-exposed containers.

Unusual or Explosive Hazards:
None

Extinguishing Media Which Must Not be Used:
Not evaluated.

Special Protective Equipment for Firefighters:
Wear full protective clothing and positive pressure breathing apparatus. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products.

FIRE:
In case of fire, use water spray, dry chemical, foam or carbon dioxide. Water may cause frothing. Use water spray to cool fire-exposed containers.

6. ACCIDENTAL RELEASE MEASURES

Procedures in Case of Accidental Release, Breakage or Leakage:
Ventilate area. Avoid breathing vapor. Wear appropriate personal protective equipment, including appropriate respiratory protection. Contain spill if possible. Wipe up or absorb on suitable material and shovel up. Prevent entry into sewers and waterways. Avoid contact with skin, eyes or clothing.

7. HANDLING AND STORAGE

Precautions to be Taken in

7. HANDLING AND STORAGE (cont'd)

Handling:
Eye wash and safety shower should be available nearby when this product is handled or used.

Storage:
Store away from heat and open flame. Periods of exposure to high temperatures should be minimized. Water contamination should be avoided.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective Equipment (Type)

Eye/Face Protection:
Safety glasses, chemical type goggles, or face shield recommended to prevent eye contact.

Skin Protection:
Protective clothing such as coveralls or lab coats must be worn. Launder or dry-clean when soiled. Gloves resistant to chemicals and petroleum distillates required. When handling large quantities, impervious suits, gloves, and rubber boots must be worn.

Respiratory Protection:
Airborne concentrations should be kept to lowest levels possible. If vapor, mist or dust is generated and the occupational exposure limit of the product, or any component of the product, is exceeded, use appropriate NIOSH or MSHA approved air purifying or air supplied respirator after determining the airborne concentration of the contaminant. Air supplied respirators should always be worn when airborne concentration of the contaminant or oxygen content is unknown.

Ventilation:
Local exhaust ventilation recommended if generating vapor, dust, or mist. If exhaust ventilation is not available or inadequate, use MSHA or NIOSH approved respirator as appropriate.

Exposure Control for Total Product:
None established for product, refer to Section 2 for component exposure limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:
Bright and clear liquid

Odor:
Petroleum odor

Boiling Point (degrees C):
337.78

Melting/Freezing point (degrees C):
Not applicable.

Specific Gravity (water=1):
0.844

9. PHYSICAL AND CHEMICAL PROPERTIES (cont'd)

pH of undiluted product:
Not applicable.
Vapor Pressure:
< 10 mmHg (20.00)
Viscosity (degrees C):
2.5 eSt (37.78)
VOC Content:
Not determined.
Vapor Density (air=1):
Not determined.
Solubility in Water (%):
Not determined.
Other:
None

10. STABILITY AND REACTIVITY

This material reacts violently with:
Strong Oxidizers
Comments:
None
Products Evolved When Subjected to Heat or Combustion:
Toxic levels of carbon monoxide, carbon dioxide, irritating aldehydes and ketones.

-

Hazardous Polimerizations:
No

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION (ANIMAL TOXICITY DATA)

Median Lethal Dose

Oral:
LD50 Similar product 9.00 ml/kg (rat) practically non-toxic
Inhalation:
Not determined.
Dermal:
LD50 Similar product > 5.00 g/kg (rabbit) practically non-toxic
Irritation Index, Estimation of Irritation (Species)

Skin:
(Draize) Similar product 6.90 /8.0 (rabbit) extremely irritating

11. TOXICOLOGICAL INFORMATION (cont'd)

Eyes:
(Draize) Believed to be > 15.00 - 25.00 /110 (rabbit) slightly irritating
Sensitization:
Not determined.
Other:
Middle distillates have caused skin irritation and skin cancer in laboratory animals when repeatedly applied and left in place between applications. Studies to further evaluate the carcinogenic potential of middle distillates are currently underway. Kidney damage has also been observed in laboratory animals exposed to middle distillates.

12. DISPOSAL CONSIDERATIONS

Waste Disposal Methods:
Dispose of this product in accordance with local and/or national regulations.
US/RCRA Waste Disposal Methods:
This product has been evaluated for RCRA characteristics and does not meet the criteria of a hazardous waste if discarded in its purchased form. Under RCRA, it is the responsibility of the user of the product to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because product uses, transformations, mixtures, processes, etc. may render the resulting materials hazardous.
Remarks:
None

13. TRANSPORT INFORMATION

DOT:
Fuel Oil
Combustible liquid (LAND TRANSPORT ONLY-49CFR 173.120(b)(2))
Identification Number:
NA 1993
Packing Group:
III
IMDG:
Not evaluated
ICAO:
Not evaluated
TDG:
Not evaluated

14. REGULATORY INFORMATION

Regulatory Information:

14. REGULATORY INFORMATION (cont'd)

SARA 311 Hazard Categorization:
Acute
Chronic
Fire
Regulated Chemicals:

WHMIS:
Not determined
Regulatory Comments:
This product, or its components, are listed on or are exempt from the Toxic Substance Control Act (TSCA) Chemical Substance Inventory.

The Japanese Ministry of International Trade and Industry (MITI) inventory status of this product has not been determined.

The European Inventory of Chemical Substances (EINECS) or the European List of Notified Chemical Substances (ELINCS) status of this product has not been determined.

The Canadian Domestic Substances List (DSL) status of this product has not been determined.

The Australian Inventory of Chemical Substances (AICS) status of this product has not been determined.

15. ENVIROMENTAL INFORMATION

Aquatic Toxicity:
Not determined.
Mobility:
Not determined.
Persistence and Biodegradability:
Not determined.
Potential to Bioaccumulate:
Not evaluated.
Remarks:
Not evaluated.

16. OTHER INFORMATION

Other Information:
THIS PRODUCT IS NOT INTENDED FOR USE IN SPACE HEATERS. DO NOT USE IN AGRICULTURAL SPRAYS.
DO NOT USE THIS PRODUCT IN SPRAY APPLICATIONS.
Texaco recommends that all exposures to this product be minimized by strictly adhering to recommended occupational controls procedures to avoid any potential adverse health effects.

17. PRODUCT LABEL

PRODUCT LABEL

MATERIAL IDENTITY

Product code and name:
00813 MARINE DIESEL BLEND

-

Blends of distillate and residual petroleum fractions to prescribed viscosity ranges.
CAS | % 100.00

PRODUCT IS HAZARDOUS ACCORDING TO OSHA (1910.1200).

WARNING STATEMENT
WARNING !
MAY CAUSE DIZZINESS AND DROWSINESS
CAUSES SKIN IRRITATION
MAY CAUSE EYE IRRITATION
ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE
COMBUSTIBLE LIQUID AND VAPOR
USE ONLY AS A FUEL
CONTAINS MIDDLE DISTILLATES WHICH MAY CAUSE CANCER BASED ON ANIMAL DATA

PRECAUTIONARY MEASURES:
-Use only with adequate ventilation.
-Keep away from heat and flame.
-Avoid breathing vapor, mist, or gas.
-Avoid contact with eyes, skin, and clothing.
-Keep container closed.
-Wash thoroughly after handling.

HMIS

Health:
2
Flammability:
2
Reactivity:
0
Special:
-

NFPA

Health:
2

17. PRODUCT LABEL (cont'd)

Flammability:
2
Reactivity
0
Special:
-
First Aid Measures

Eyes:
Immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids apart while flushing to rinse entire surface of eye and lids with water. Get medical attention.

Skin:
Immediately remove contaminated clothing and shoes. Under a safety shower, flush skin thoroughly with large amounts of running water for at least 15 minutes. Do not attempt to neutralize with chemical agents. Get medical attention immediately. Discard or decontaminate clothing and shoes before reuse.

Ingestion:
If person is conscious and can swallow, give two glasses of water (16 oz.) but do not induce vomiting. If vomiting occurs, give fluids again. Have medical personnel determine if evacuation of stomach or induction of vomiting is necessary. Do not give anything by mouth to an unconscious or convulsing person.

Inhalation:
If inhaled, remove to fresh air. If not breathing, clear person's airway and give artificial respiration. If breathing is difficult, qualified medical personnel may administer oxygen. Get medical attention immediately.

Note to Physician:
Aspiration of this product during induced emesis may result in severe lung injury. If evacuation of stomach is necessary, use method least likely to cause aspiration, such as gastric lavage after endotracheal intubation. Contact a Poison Center for additional treatment information.

FIRE:
In case of fire, use water spray, dry chemical, foam or carbon dioxide. Water may cause frothing. Use water spray to cool fire-exposed containers.

DOT:
Fuel Oil
Combustible liquid (LAND TRANSPORT ONLY-49CFR 173.120(b)(2))

Identification Number:
NA 1993

Packing Group:
III

Manufacturer's name and address:
FUEL AND MARINE MARKETING LLC
or its Subsidiaries
2000 Westchester Avenue
White Plains, NY 10650

MARINE DIESEL BLEND

17. PRODUCT LABEL (cont'd)

Telephone numbers:

Transportation emergency:
(504) 680-1900
Health emergency-Company: (504) 680-1900

Product Code : 00813

Date Issued: 2000-07-21 Supersedes: 1999-02-10

CAUTION: Misuse of empty containers can be hazardous. Empty containers can be hazardous if used to store toxic, flammable, or reactive materials. Cutting or welding of empty containers might cause fire, explosion or toxic fumes from residues. Do not pressurize or expose to open flame or heat. Keep container closed and drum bungs in place.

THE INFORMATION CONTAINED HEREIN IS BELIEVED TO BE ACCURATE. IT IS PROVIDED INDEPENDENTLY OF ANY SALE OF THE PRODUCT FOR PURPOSE OF HAZARD COMMUNICATION AS PART OF THE COMPANY'S PRODUCT STEWARDSHIP PROGRAM. IT IS NOT INTENDED TO CONSTITUTE PERFORMANCE INFORMATION CONCERNING THE PRODUCT. NO EXPRESS WARRANTY, OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS MADE WITH RESPECT TO THE PRODUCT OR THE INFORMATION CONTAINED HEREIN. DATA SHEETS ARE AVAILABLE FOR ALL THE COMPANY'S PRODUCTS. YOU ARE URGED TO OBTAIN DATA SHEETS FOR ALL THE COMPANY'S PRODUCTS YOU BUY, PROCESS, USE OR DISTRIBUTE AND YOU ARE ENCOURAGED AND REQUESTED TO ADVISE THOSE WHO MAY COME IN CONTACT WITH SUCH PRODUCTS OF THE INFORMATION CONTAINED HEREIN. TO DETERMINE APPLICABILITY OR EFFECT OF ANY LAW OR REGULATION WITH RESPECT TO THE PRODUCT, USER SHOULD CONSULT HIS LEGAL ADVISOR OR THE APPROPRIATE GOVERNMENT AGENCY. THE COMPANY DOES NOT UNDERTAKE TO FURNISH ADVICE ON SUCH MATTERS.

MATERIAL SAFETY DATA SHEET
(English - FAMM)

FAMM

FUEL OIL #6

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MATERIAL IDENTITY

Product code and name:
GEN07 FUEL OIL #6
Chemical name and/or family or decription:
Fuel Oil
Manufacturer's name and address:
FUEL AND MARINE MARKETING LLC
or its Subsidiaries
2000 Westchester Avenue
White Plains, NY 10650

Transportation emergency:
(914) 831-3400
CHEMTREC (USA): (800) 424-9300

Health emergency-Company: (914) 831-3400

MSDS Assistance (USA): (914) 838-7204

2. COMPOSITION/INFORMATION ON INGREDIENTS

Product and/or component(s) Carcinogenic According to:

OTHER

This Material Safety Data Sheet may be used for the following products for Hazard Communications purposes only, not intended to imply identical performance/technical specifications:

00753 Fuel Oil
00755 Fuel Oil
00821 Fuel Oil LSLA
00823 Fuel Oil PA
00840 Bunker Fuel Oil
00841 Fuel Oil C HV
00847 Fuel Oil C HV
00864 Fuel Oil VLS
00867 Fuel Oil LSHP
00868 Fuel Oil C
00878 Fuel Oil CHV
00880 Fuel Oil PSP
00885 Fuel Oil Heavy BKP
00887 Fuel Oil C
00891 Fuel Oil #6
00892 Fuel Oil C-IG

Name	CAS Nr	Range in %
Blendstock of distillate and residual petroleum fractions to prescribed viscosity ranges.		100

PRODUCT IS HAZARDOUS ACCORDING TO OSHA (1910.1200).

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

WARNING STATEMENT
WARNING !
FLAMMABLE HEADSPACE VAPORS MAY BE PRESENT
CONTAINS OR MAY RELEASE HYDROGEN SULFIDE GAS (H2S) H2S GAS IS HARMFUL OR FATAL IF INHALED H2S GAS IS IRRITATING TO EYES AND RESPIRATORY TRACT H2S GAS MAY ACCUMULATE IN CONFINED SPACES
MAY CAUSE EYE IRRITATION
COMBUSTIBLE LIQUID AND VAPOR
USE ONLY AS A FUEL
CONTAINS CATALYTICALLY CRACKED CLARIFIED OIL WHICH MAY CAUSE CANCER AND BIRTH DEFECTS BASED ON ANIMAL DATA
CONTAINS POLYNUCLEAR AROMATIC HYDROCARBONS WHICH MAY CAUSE CANCER BASED ON ANIMAL DATA

PRECAUTIONARY MEASURES:
-Keep away from heat, sparks or flame.
-Use only with adequate ventilation.
-H2S gas deadens sense of smell. Do not depend on odor to detect presence of gas.
-Use supplied air respiratory protection for cleaning large spills or upon entry into tanks, vessels, or other confined spaces.
-Avoid breathing vapor, mist, or gas.
-Avoid contact with eyes, skin, and clothing.
-Rescue procedures should be attempted ONLY after notifying others of emergency and ONLY if appropriate personal equipment is available.
-Keep container closed.
-Wash thoroughly after handling.

HMIS

Health:
2
Flammability:
2
Reactivity:
0
Special:
-

3. HAZARD IDENTIFICATION (cont'd)

NFPA

Health:
1
Flammability:
2
Reactivity
0
Special:
-
Primary Route of Exposure:
EYES
SKIN
INHALATION
EFFECTS OF OVEREXPOSURE

Acute:

Eyes:
May cause irritation, experienced as discomfort or pain, and seen as excess redness and swelling of the eye, and possible injury to the cornea.
Skin:
Brief contact may cause slight irritation. Prolonged contact, as with clothing wetted with material, may cause more severe irritation and discomfort, seen as local redness and swelling.
Other than the potential skin irritation effects noted above, acute (short term) adverse effects are not expected from brief skin contact, see other effects, below, and Section 11 for information regarding potential long term effects.
Prolonged, widespread, or repeated skin contact may result in the absorption of potentially harmful amounts of material.
Inhalation:
Vapors or mist, in excess of permissible concentrations, or in unusually high concentrations generated from spraying, heating the material or as from exposure in poorly ventilated areas or confined spaces, may cause irritation of the nose and throat, headache, nausea, and drowsiness.
Contains or may release hydrogen sulfide (H2S) gas. H2S concentrations above permissible concentrations can cause irritation of the eyes and respiratory tract, headache, dizziness, nausea, vomiting, diarrhea, and pulmonary edema. At concentrations above 300 ppm, respiratory paralysis, causing unconsciousness and death, can occur Prolonged or repeated overexposure may result in the absorption of potentially harmful amounts of material.
Ingestion:
If more than several mouthfuls are swallowed, abdominal discomfort, nausea, and diarrhea may occur.

3. HAZARD IDENTIFICATION (cont'd)

Sensitization Properties:
Unknown.

Chronic:
No adverse effects have been documented in humans as a result of chronic exposure. Section 11 may contain applicable animal data.

Medical Conditions Aggravated by Over Exposure:
Because of its irritating properties, repeated skin contact may aggravate an existing dermatitis (skin condition).

Other Remarks:
Heating or calcining (in temperatures between 350 and 1800 F) or other processing may release particulate and/or gaseous polynuclear aromatic hydrocarbons (polycyclic aromatic hydrocarbons). These are also known as coal tar pitch volatiles. IARC has concluded that there is sufficient evidence for carcinogenicity for coal tar pitches in humans and laboratory animals. The ACGIH TLV/TWA is 0.2 mg/m3.

4. FIRST AID MEASURES

Eyes:
Immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids apart while flushing to rinse entire surface of eye and lids with water. Get medical attention.

Skin:
Wash skin with plenty of soap and water until all traces of material are removed. Remove and clean contaminated clothing (See Other Instructions). Destroy non-resistant footwear. Get medical attention if skin irritation persists or contact has been prolonged.

Ingestion:
If more than several mouthfuls of this material are swallowed, give two glasses of water (16 oz.). Get medical attention.

Inhalation:
If inhaled, remove to fresh air. If not breathing, clear person's airway and give artificial respiration. If breathing is difficult, qualified medical personnel may administer oxygen. Get medical attention immediately.

Other Instructions:
Remove and dry-clean or launder clothing soaked or soiled with this material before reuse. Dry cleaning of contaminated clothing may be more effective than normal laundering. Inform individuals responsible for cleaning of potential hazards associated with handling contaminated clothing.

Note to Physician:
Inhalation exposure may result in respiratory tract injury, the delayed onset of pulmonary edema, and may predispose patient to secondary respiratory infection. Persons exposed to high concentrations should be hospitalized for observation. Contact a Poison Center for additional treatment information.

5. FIRE-FIGHTING MEASURES

Ignition Temperature - AIT (degrees C):
Not determined.
Flash Point (degrees C):
65 (PMCC)
Recommended Fire Extinguishing Agents and Special Procedures:
Use water spray, dry chemical, foam or carbon dioxide to extinguish flames. Use water spray to cool fire-exposed containers.
Unusual or Explosive Hazards:
May polymerize violently upon exposure to heat from fire.
Special Protective Equipment for Firefighters:
Wear full protective clothing and positive pressure breathing apparatus.
FIRE:
In case of fire, use water spray, dry chemical, foam or carbon dioxide. Water may cause frothing. Use water spray to cool fire-exposed containers.

6. ACCIDENTAL RELEASE MEASURES

Procedures in Case of Accidental Release, Breakage or Leakage:
Ventilate area. Avoid breathing vapor. Wear appropriate personal protective equipment, including appropriate respiratory protection. Contain spill if possible. Wipe up or absorb on suitable material and shovel up. Prevent entry into sewers and waterways. Avoid contact with skin, eyes or clothing.

7. HANDLING AND STORAGE

Precautions to be Taken in

Handling:
This product contains residual fuels which must be considered as a potential flammability risk. Light hydrocarbons may be released in the headspace vapors of bunker tanks, cargo tanks, and land based terminal storage tanks. The headspace vapors may be flammable at temperatures below the flashpoint of the liquid.
Storage:
Store away from heat and open flame. Periods of exposure to high temperatures should be minimized. Water contamination should be avoided.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective Equipment (Type)

Eye/Face Protection:
Avoid eye contact. Chemical type goggles should be worn. Do not wear contact lenses.
Skin Protection:
Protective clothing such as coveralls or lab coats should be worn. Launder or dry-clean when soiled. Gloves and boots resistant to chemicals and petroleum distillates required.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION (cont'd)

Respiratory Protection:
When Hydrogen Sulfide (H2S) concentrations are unknown or are equal to or greater than 10 ppm, (as in such activities as: loading, unloading, guaging, cleaning large spills or upon entry into tanks, vessels, or other confined spaces, and during rescue of individuals suspected to be overexposed to H2S), use supplied-air (airline or self-contained breathing apparatus) respiratory protection (NIOSH/MSHA Approved). The respirators must be equipped with pressure-demand regulators and operated in the pressure-demand mode ONLY. If airline units are used, a 5-minute egress bottle MUST also be carried. GAS MASKS OR OTHER AIR-PURIFYING RESPIRATORS MUST NEVER BE USED FOR H2S DUE TO POOR WARNING PROPERTIES OF THE GAS.

Ventilation:
Local exhaust ventilation recommended if generating vapor, dust, or mist. If exhaust ventilation is not available or inadequate, use MSHA or NIOSH approved respirator as appropriate.

Exposure Control for Total Product:
None established for product. Recommend coal tar pitch volatiles (benzene soluble fraction): Coal tar pitch volatiles: OSHA PEL-TWA 0.2 mg/m3. Hydrogen sulfide: OSHA PEL-TWA 10 ppm, STEL 15ppm. ACGIH TLV-TWA 10 ppm, STEL 15 ppm.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:
Black liquid

Odor:
Oil-type odor

Boiling Point (degrees C):
Not determined.

Melting/Freezing point (degrees C):
Not applicable.

Specific Gravity (water=1):
.946

pH of undiluted product:
Not determined.

Vapor Pressure:
Not determined.

Viscosity (degrees C):
68 eSt (50.00)

VOC Content:
Not determined.

Vapor Density (air=1):
Not determined.

Solubility in Water (%):
Not determined.

Other:
None

10. STABILITY AND REACTIVITY

This material reacts violently with:
Strong Oxidizers
Comments:
None
Products Evolved When Subjected to Heat or Combustion:
Toxic levels of carbon monoxide, carbon dioxide, irritating aldehydes and ketones. May evolve hydrogen sulfide, sulfur oxides and other sulfur containing compounds.
Hazardous Polimerizations:
No

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION (ANIMAL TOXICITY DATA)

Median Lethal Dose

Oral:
LD50 Believed to be > 5.00 g/kg (rat) practically non-toxic
Inhalation:
Not determined.
Dermal:
LD50 Believed to be >.2.00 g/kg (rabbit) practically non-toxic
Irritation Index, Estimation of Irritation (Species)

Skin:
(Draize) Believed to be > 0.5-3.0 /8.0 (rabbit) slightly irritating
Eyes:
(Draize) Believed to be > 25.0-50.0 /110 (rabbit) moderately irritating
Sensitization:
Not determined.
Other:
Repeated dermal application of Catalytically Cracked Clarified Oil to experimental animals has been reported to elicit skin cancer, mortality and toxic effects towards the liver, thymus and bone marrow, the latter effect was accompanied by anemia. The kidney and adrenal glands have also been reported as target organs of this material. Dermal application of Catalytically Cracked Clarified Oil to preganant experimental animals has also been reported to elicit toxic effects towards the developing offspring. Catalytically Cracked Clarified Oil has been reported as a genetic toxicant in experimental studies.
Middle distillates have caused skin irritation and skin cancer in laboratory animals when repeatedly applied and left in piace between applications. Studies to further evaluate the carcinogenic potential of middle distillates are currently underway. Kidney damage has also been observed in laboratory animals exposed to middle distillates.
A similar product, Texaco Fuel Oil C, is mutagenic to bacteria in the Modified Ames Test.

12. DISPOSAL CONSIDERATIONS

US/RCRA Waste Disposal Methods:

This product has been evaluated for RCRA characteristics and does not meet the criteria of a hazardous waste if discarded in its purchased form. Under RCRA, it is the responsibility of the user of the product to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because product uses, transformations, mixtures, processes, etc. may render the resulting materials hazardous.

Remarks:

None

13. TRANSPORT INFORMATION

DOT:

Fuel Oil
Combustible liquid (See 49CFR 172.101(d)(4))

Identification Number:

NA1993

Packing Group:

III

Label Required:

None

IMDG:

Not evaluated

ICAO:

Not evaluated

TDG:

Not evaluated

14. REGULATORY INFORMATION

Regulatory Information:

SARA 311 Hazard Categorization:

Fire
Acute
Chronic

Regulated Chemicals:

WHMIS:

Not determined

Regulatory Comments:

This product, or its components, are listed on or are exempt from the Toxic Substance Control Act (TSCA) Chemical Substance Inventory.

The Japanese Ministry of International Trade and Industry (MITI) inventory status of this product has not been determined.

The European Inventory of Chemical Substances (EINECS) or the European List of Notified Chemical Substances (ELINCS) status of this product has not been determined.

The Canadian Domestic Substances List (DSL) status of this product has not been

14. REGULATORY INFORMATION (cont'd)

determined.

The Australian Inventory of Chemical Substances (AICS) status of this product has not been determined.

15. ENVIROMENTAL INFORMATION

Aquatic Toxicity:
Not determined.
Mobility:
Not determined.
Persistence and Biodegradability:
Not determined.
Potential to Bioaccumulate:
Not determined.
Remarks:
None

16. OTHER INFORMATION

Other Information:
THIS PRODUCT IS INTENDED FOR USE AS A FUEL ONLY.
Hazardous concentrations of hydrogen sulfide (H2S) gas can accumulate in storage and rundown tanks, marine vessel compartments, sump pits or other confined spaces. When opening valves, hatches and dome covers, stand upwind, keep face as far from the opening as possible and avoid breathing any gases or vapors. When exposure concentrations are unknown and respiratory protection is not used, personal H2S warning devices should be worn. These devices should not be relied on to warn of life threatening concentrations. H2S fatigues the sense of smell rapidly. The rotten egg odor of H2S disappears quickly, even though high concentrations are still present. The ACGIH TLV/TWA for H2S is 10 ppm, the ACGIH STEL is 15 ppm.
Texaco recommends that all exposures to this product be minimized by strictly adhering to recommended occupational controls procedures to avoid any potential adverse health effects.
The ash from combustion products will contain nickel, vanadium, and other potentially toxic heavy metal oxides. Take appropriate precautions to avoid contact with and inhalation of ash from combustion and exhaust spaces.

17. PRODUCT LABEL

MATERIAL IDENTITY

Product code and name:
GEN07 FUEL OIL #6

This Material Safety Data Sheet may be used for the following products for Hazard Communications purposes only, not intended to imply identical performance/technical specifications:

00753 Fuel Oil
00755 Fuel Oil
00821 Fuel Oil LSLA
00823 Fuel Oil PA

17. PRODUCT LABEL (cont'd)

00840 Bunker Fuel Oil
00841 Fuel Oil C HV
00847 Fuel Oil C HV
00864 Fuel Oil VLS
00867 Fuel Oil LSHP
00868 Fuel Oil C
00878 Fuel Oil CHV
00880 Fuel Oil PSP
00885 Fuel Oil Heavy BKP
00887 Fuel Oil C
00891 Fuel Oil #6
00892 Fuel Oil C-IG

Blendstock of distillate and residual petroleum fractions to prescribed viscosity ranges.
CAS | % 100.00

PRODUCT IS HAZARDOUS ACCORDING TO OSHA (1910.1200).
WARNING STATEMENT
WARNING !
FLAMMABLE HEADSPACE VAPORS MAY BE PRESENT
CONTAINS OR MAY RELEASE HYDROGEN SULFIDE GAS (H2S) H2S GAS IS HARMFUL OR FATAL IF INHALED H2S GAS IS IRRITATING TO EYES AND RESPIRATORY TRACT H2S GAS MAY ACCUMULATE IN CONFINED SPACES
MAY CAUSE EYE IRRITATION
COMBUSTIBLE LIQUID AND VAPOR
USE ONLY AS A FUEL
CONTAINS CATALYTICALLY CRACKED CLARIFIED OIL WHICH MAY CAUSE CANCER AND BIRTH DEFECTS BASED ON ANIMAL DATA
CONTAINS POLYNUCLEAR AROMATIC HYDROCARBONS WHICH MAY CAUSE CANCER BASED ON ANIMAL DATA
PRECAUTIONARY MEASURES:
-Keep away from heat, sparks or flame.
-Use only with adequate ventilation.
-H2S gas deadens sense of smell. Do not depend on odor to detect presence of gas.
-Use supplied air respiratory protection for cleaning large spills or upon entry into tanks, vessels, or other confined spaces.
-Avoid breathing vapor, mist, or gas.
-Avoid contact with eyes, skin, and clothing.
-Rescue procedures should be attempted ONLY after notifying others of emergency and ONLY if appropriate personal equipment is available.
-Keep container closed.
-Wash thoroughly after handling.

7. PRODUCT LABEL (cont'd)

HMIS

Health:
2
Flammability:
2
Reactivity:
0
Special:
-

NFPA

Health:
1
Flammability:
2
Reactivity
0
Special:
-

Eyes:
Immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids apart while flushing to rinse entire surface of eye and lids with water. Get medical attention.

Skin:
Wash skin with plenty of soap and water until all traces of material are removed. Remove and clean contaminated clothing (See Other Instructions). Destroy non-resistant footwear. Get medical attention if skin irritation persists or contact has been prolonged.

Ingestion:
If more than several mouthfuls of this material are swallowed, give two glasses of water (16 oz.). Get medical attention.

Inhalation:
If inhaled, remove to fresh air. If not breathing, clear person's airway and give artificial respiration. If breathing is difficult, qualified medical personnel may administer oxygen. Get medical attention immediately.

Note to Physician:
Inhalation exposure may result in respiratory tract injury, the delayed onset of pulmonary edema, and may predispose patient to secondary respiratory infection. Persons exposed to high concentrations should be hospitalized for observation. Contact a Poison Center for additional treatment information.

FIRE:
In case of fire, use water spray, dry chemical, foam or carbon dioxide. Water may cause frothing. Use water spray to cool fire-exposed containers.

17. PRODUCT LABEL (cont'd)

DOT:
Fuel Oil
Combustible liquid (See 49CFR 172.101(d)(4))
Identification Number:
NA1993
Packing Group:
III
Label Required:
None
Manufacturer's name and address:
FUEL AND MARINE MARKETING LLC
or its Subsidiaries
2000 Westchester Avenue
White Plains, NY 10650

Telephone numbers:

Transportation emergency:
(914) 831-3400
Health emergency-Company: (914)831-3400

Product Code :GEN07

Date Issued: 1999-10-25 Supersedes:

PACIFIC TERMINAL SERVICES, INC.
910 SW Spokane Street, Seattle, Washington 98134
P.O. Box 24005, Seattle, Washington 98124-0005
Tele. (206) 628-0051 Fax (206) 628-0293

01 March 2000

Captain of the Port
U.S. Coast Guard Marine Safety Office
ATTN: Facilities & Containers
6767 N. Basin Ave.
Portland, OR 97217

Dear Sir:

Please accept this as our Letter of Intent to operate a facility capable of transferring oil or hazardous materials in bulk to or from a vessel with a capacity of 250 barrels or more. The information in this letter is intended to update a current letter on file for the Pacific Northern Oil (PNO) facility. Ownership of the facility has changed from PNO to Fuel and Marine Marketing (FAMM). Pacific Terminals Services will manage the facility. The following information is provided to your office under the provisions of Title 33, Code of Federal Regulations, Part 154.110;

Facility Owner:	Fuel & Marine Marketing, LLC 100 W. Harrison North Tower #420 Seattle, WA 98119
Facility Operator:	Pacific Terminal Services, Inc. P.O. Box 24005 Seattle, WA 98124 (206) 628-0051
Facility Information:	Fuel & Marketing Marketing, LLC Portland Marine Fuel Oil Facility 7900 NW St. Helens Road Portland, OR 97210 (503) 286-9621

Geographic Location: The facility is located on the western shore of the Willamette River approximately 6.5 miles upstream of the mouth of the Willamette River, between the St. Johns Bridge and the Railroad Bridge. Geographically, the location is 45 degrees 35 minutes North, and 122 degrees 46 minutes West.

The enclosed Operations Manuals are submitted for review per 33 CFR 154.300. PTSI will utilize this manual in the operation of this facility after approval. All employees shall follow the guidelines and directives in this manual in the performance of their duties. Plan holders are authorized to make appropriate expenditures in order to execute plan provisions.

Sincerely,

George C. Clark
Director, Regulatory Affairs

Enclosure

PACIFIC TERMINAL SERVICES, INC.
910 SW Spokane Street, Seattle, Washington 98134
P.O. Box 24005, Seattle, Washington 98124-0005
Tele. (206) 628-0051 Fax (206) 628-0293

01 March 2000

Mr. Mike Zollitsch
Oregon Dept. of Environmental Quality
811 SW Sixth Avenue
Portland, OR 97204

Dear Mr. Zollitsch:

Please accept this as our Letter of Intent to operate a facility capable of transferring oil or hazardous materials in bulk to or from a vessel with a capacity of 250 barrels or more. The information in this letter is intended to update a current letter on file for the Pacific Terminal Services, Inc. (PTSI) facility. Pacific Terminals Services will manage the facility for Fuel And Marine Marketing, LLC (FAMM). The Operations Manuals submitted with this letter are intended to be used following approval by your office and the U.S. Coast Guard.. The following information is provided to your office

Facility Owner:	Fuel & Marine Marketing, LLC 100 W. Harrison North Tower #420 Seattle, WA 98119
Facility Operator:	Pacific Terminal Services, Inc. P.O. Box 24005 Seattle, WA 98124 (206) 628-0051
Facility Information:	Fuel & Marketing Marketing, LLC Portland Marine Fuel Oil Facility 7900 NW St. Helens Road Portland, OR 97210 (503) 286-9621

Geographic Location: The facility is located on the western shore of the Willamette River approximately 6.5 miles upstream of the mouth of the Willamette River, between the St. Johns Bridge and the Railroad Bridge. Geographically, the location is 45 degrees 35 minutes North, and 122 degrees 46 minutes West.

PTSI accepts the enclosed operations manual for use at this facility after regulatory approval. PTSI and its employees are hereby committed to the execution of the manual and plan holders are authorized to make appropriate expenditures in order to execute plan provisions.

Sincerely,

George C. Clark
Director, Regulatory Affairs

CITY OF

PORTLAND, OREGON

BUREAU OF FIRE, RESCUE & EMERGENCY SERVICES

Jim Francesconi Commissioner of Public Utilities
Edward A. Wilson, Fire Chief
Richard Grace, Emergency Operations Chief
55 SW Ash Street
Portland, Oregon 97204-3590
Main Phone (503) 823-3700

08/01/2001

Dear Mr. Robertson,

In response to our telephone conversation, the following would be the Fire Bureau response to your location if a fire were reported there:

1 Fireboat
5 Engines
2 Trucks
2 Battalion Chiefs

If needed, a second alarm would bring the following additional equipment:

3 Engines
2 Trucks
1 Squad
1 Rescue
1 Deputy Chief
1 Battalion Chief
Miscellaneous support staff and equipment

Additional "Greater Alarm's" add 4 Engines and 1 Truck to the response.
The response time to your location with lights and siren would be about 4 minutes.
The closest Fire Station to your location is Station 22. They are located at 7205 N Alta Ave. The phone number there is 823-3849.

Thank you for your inquiry and I hope this will assist you. Please call if we can be of any further assistance.

Sincerely,

Merrill Gonterman

Lt. Merrill Gonterman
(503) 823-3873